

Municipal Journal

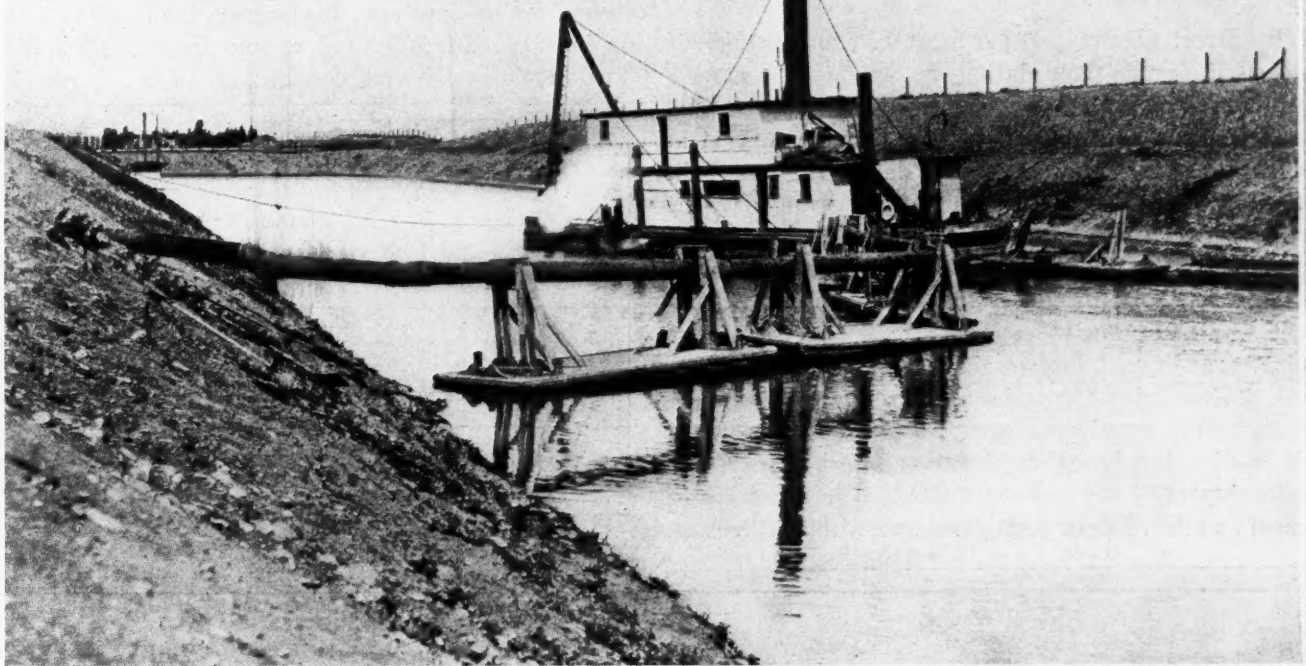
And Engineer

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No. 11

PUBLIC WORKS OF HAMILTON



SUCTION DREDGE CLEANING FILTERED WATER RESERVOIR

THE city of Hamilton, Ont., Can., has a population of about 65,000 and covers an area of about 6,000 acres. The water supply is taken from Lake Ontario and is passed through sand filters before being pumped to the city. During the year of 1907 particular attention was given to keeping the water works basins and reservoir clean, one reservoir having been cleaned out twice. As an additional effort toward keeping the water in good condition, dead ends of the pipe were blown off occasionally, and the bottoms and sides of the filtered water basins were cleaned of weeds and vegetable deposits.

In the latter work a somewhat unique method was employed. A sand pump or hydraulic dredge was purchased at a cost of \$12,187 and did good work in removing this deposit from the bottom of the two filter basins; although it is said that the agitator did not extract the weeds as well as was expected. This, however, it was believed would be easy to remedy by the addition

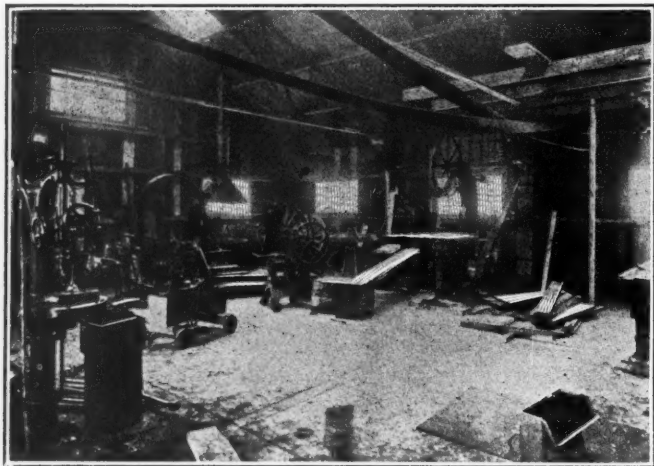
of a proper cutter head for loosening the weeds from the bottom. This dredge was also used in repairing a three-foot intake pipe connected with the filter basin, and in the removal of sand from within it. The use of a permanent dredge for the cleaning of reservoirs is by no means a common practice, although Washington, D. C., and possibly some other cities, have recently inaugurated it. The operation of this dredge during the year cost \$1,685 for salaries, \$2,128 for supplies and repairs, and \$1,030 for tugs; or a total of \$4,843.

The department found by systematic inspection what we believe many other cities could find but do not, that considerable water was being wasted by leakage from the valves on account of worn out packing or other causes, and all such leaks are at once remedied. Waste of water from buildings is prevented both by use of meters and by inspection, the former in the case of large consumers, the latter in residences. During the year

every building supplied with water was inspected and repairs made when necessary. In factories and other establishments 324 meters are used, only four of these being less than one inch in diameter. The cost of making these inspections, making the necessary repairs and looking after the meters, was \$12,060, of which \$10,757 was for salaries.

During the year 8 1-4 miles of cement sidewalks were laid and about three miles of cement curbing. The latter is reported by the Board of Works to look better than stone curbing as well as being cheaper, so that stone curbing is becoming obsolete in Hamilton. The cost of this curb, which is laid by the city, averaged 38.8 cents per foot, ranging from 32.0 to 57.0 cents per foot. The cement walk cost an average of 14.1 cents per square foot, ranging from 8.1 to 23.3 cents per foot, the last being for a small job of 624 square feet. At the end of the year there were 152 1-3 miles of cement walks in the city.

The Street Cleaning Department had an average of 26 carts in service daily during the season for watering the streets, at a total cost of \$14,575, these wagons using 75,852 loads. In addition, the streets were flushed at a cost of \$1,662. The department during the year built a flushing machine at their shops at a cost of \$832, the largest items of which were \$223.32 for labor, \$140 for a tank and \$224.73 for wheels, axles, etc.; the valves costing \$26.65 and bronze castings \$25.36. The department was preparing to construct four street sweepers and two additional flushers in their shops in the city yard. These shops contain a 5-horsepower Westinghouse motor, a universal woodworker, grinder, power drill, rattler, hub-borer, car bender, forges, blower, and blacksmith, carpenter and other tools. The floors are of cement and the roofs of corrugated iron with steel trusses.

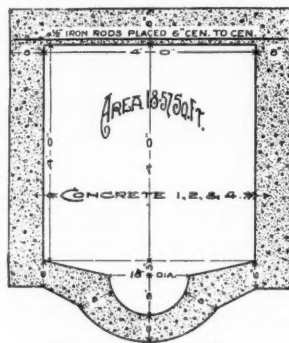


MACHINE SHOP, HAMILTON STREET DEPARTMENT

In addition to the work already mentioned a road roller and an asphalt steam roller were thoroughly overhauled, the boiler of the latter being tested, the engine repaired, gearing renewed and the whole repainted. The equipment of the department comprises 27 Studebaker sprinklers, 2 Niagara sprinklers, 4 old style pipe sprinklers, 8 two-horse mud scrapers, 8 street sweepers and 2 flushers.

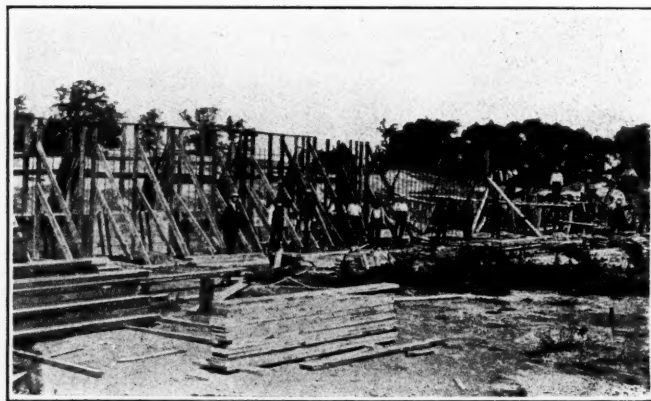
The main sewers constructed recently are of reinforced

concrete with a channel in the center for carrying the dry weather flow. This channel was formed by placing wooden drums 6 feet long and 18 inches in diameter at the proper grade and ramming the concrete in place around them. When this had properly set the drums were removed and the concrete troweled by hand so that a hard smooth surface was obtained.



CROSS-SECTION OF MAIN SEWER

Sewage purification has for some years been carried on in two plants, which last year created a combined sludge output of 7,706 tons. Last year a third sewage purification plant was constructed at the east end of the city. Twenty acres of land were purchased for this purpose, fronting on the bay and having an inlet on each side, and remote from any dwellings. Two septic tanks were constructed, each 219 feet long



SEPTIC TANKS, SHOWING REINFORCEMENT AND FORMS

by 76 feet wide and 11 feet deep. The walls were built of reinforced concrete, buttressed on the outside. From the septic tanks the sewage passes to filters which contain as filtering material blast furnace slag, which was obtained from a smelter close at hand. The sewage is applied through nozzles, the filters being operated as sprinkling filters.

SALARIES OF CITY ENGINEERS

MANY inquiries have come to us concerning the salaries of city officials, and especially City Engineers. The Bureau of Uniform Accounting of Ohio gives the salaries of these in its annual report, which we have tabulated as follows:

Salaries of City Engineers in Ohio

Population of City	No. of Cities	YEARLY SALARIES		
		Maximum	Minimum	Average
More than 100,000...	4	\$6,000	\$2,700	\$3,933
25,000 to 100,000.....	5	2,700	1,500	2,100
15,000 to 25,000.....	10	2,000	1,200	1,420
10,000 to 15,000.....	9*	1,600	900	1,211
7,000 to 10,000.....	19†	1,500	250	952
5,000 to 7,000.....	23‡	1,200	200	716

*Two of these pay, one \$4.50 a day, the other 60 cents per hour.
†Four of these have no City Engineer; six others pay by the day, \$4 to \$7, average \$5. ‡Ten of these have no City Engineer; one pays \$4 a day and another \$3.

SEATTLE POWER PLANT AND WATER SUPPLY

Hydro-Electric Plant Being Greatly Increased in Capacity—Wood Stave and Steel Pipe Used—Details of Construction—Three New Reservoirs and Water Supply Pipe Line Under Construction

By JAY L. STANNARD, Assistant City Engineer

Abstract from paper before Pacific Northwest Society of Engineers

THE Seattle, Wash., Municipal Light and Power plant, with a capacity of 2,500 kw., normal load, has been able to care for the demands for power up to the present time, but the rapid growth of the city and the consequent growing demand for more light and power, has made necessary the increase in the plant's capacity, and an addition of two units of 4,000 kw. each is now being made.

The present summer flow from the watershed is sufficient to care for the present plant without impounding more water. The flow over the weir generally ceases about July 15, and from that time until the commencement of the fall rains in October or November, the water in the lake falls to a point from 1.5 to 2.0 feet below the crest of the weir, but still leaving from ten to eleven feet of water above the top of the pipe.

It has been decided to increase the supply of water to tide over the low-water period, by placing flash boards on the dam, raising the water thereby three feet. These flash boards will consist of 1 1-2 in. by 6 in. by 14 ft. fir planks, tongued and grooved, and held in place by 1 1-2 in. diameter soft steel pins set in the top of the dam, spaced two feet centers.

With this extra supply and the water heretofore unused sufficient power will be available to care for the demands during the low water period.

It is but a matter of a few years before the large dam to be built in the canyon below the lake will become a necessity, and with its completion Seattle will have sufficient water stored to generate 30,000 horsepower every day in the year.

To supply water to the wheels, a pipe 68 in. in diameter is being built from the dam to a point one thousand feet

from the power house, where it is divided and carried in two 48-inch pipes to the wheels, the total length of pipe necessary being 17,000 feet.

The 68-inch portion of the line is continuous wooden stave pipe, this being used for all heads up to 300 feet. The 48-inch pipe, comprising that portion subject to pressures over 300 feet, is riveted steel.

In order to insure a sufficient volume of water, the grade of the proposed pipe was kept at all points below a line whose slope was 4 feet per thousand, drawn from the top of the pipe at the weir. In order to accomplish this it was necessary to cross and recross the existing pipe six times between the dam and the power house, and provisions have been made in the new location to permit the lowering of the existing line in these places, thus bringing it under a steeper gradient and increasing its flow should this be deemed advisable later on.

The line now under construction follows the existing line closely except for a distance of three thousand feet where it is on the opposite side of the river.

The existing line crosses Cedar River three times, in each case passing underneath the bed of the river. This was possible with a pipe of the smaller diameter, but owing to the river banks being so steep and sharp, curves being out of the question, it was deemed advisable to adopt a route on the north bank of the stream and cut out the two lower crossings, the first or upper crossing being less difficult than the others.

Where possible the new line is parallel to the existing line, the center lines being 11 feet apart. On account of the short radius curves possible in the construction of a 48-inch pipe, and the much longer radii necessary in the 68-inch line, it was not possible to make some of the bends without the use of elbows. These are riveted steel and five in number, the smallest angle being 43 degrees and the largest being 90 degrees.

In the location of the new line a minimum radius of 360 feet was used, being practically 60 times the diameter of the pipe. This was found to be a safe rule to follow in the location of curves for wooden pipe, and while much sharper curves may be built this is intended to apply to economical construction.

The wooden pipe will be built of yellow fir staves cut in lengths of from 10 to 30 feet free from loose or unsound knots of any size, sound tight knots not over one inch in diameter and not extending through the piece being allowed, if not more than one knot occurs in any four lineal feet of stave. Small pitch pockets are allowed, if not extending through the piece, and sap wood is allowed on the inside of the stave only, if not over half the thickness.



FIRST SECTION OF 68-INCH POWER PLANT PIPE LINE

These specifications, while somewhat more liberal than usual, gave very good results, and the staves furnished by the contractor make a very good showing.

The staves were cut from 2 1-4-in. by 7 1-2-in. stock and have finished dimensions of 2 1-4-ins. by 7 1-2-ins. They were milled during the early part of the winter, delivered to the material yards, and stacked in piles, using strips to separate the layers. They were allowed to remain there until provisions were made for storing them along the line of the pipe. They were then delivered to the line, repiled, using the strips again, and roofed over to protect them from the rains. These piles will not be disturbed until the builders are on the ground, when they will be stored and distributed.

The banding consists of mild steel bands having a tensile strength of 60,000 pounds per square inch of section. The banding is computed on a safety factor of four, based on the ultimate strength of the band. For all heads up to 110 feet, five-eighths bands are used. For heads above this and up to 220 feet, three-quarter bands are used, and for all heads above 220 and up to and including 320 feet, seven-eighth bands are used. The maximum spacing of bands, however, will not exceed 12 inches in any case.

The bands are in two sections, one being furnished with two button heads, the other with two 6-inch rolled threads, each thread having a twelve-gauge washer and a hexagon nut.

The bands are connected by means of malleable iron shoes or lugs, two being required for each complete band.

At the point where the wooden pipe joins the steel pipe a special riveted steel fitting, a breeches, is used. This fitting reduces the line from one 68-inch pipe to two 48-inch pipes.

The connection between the wood and steel will be made by inserting the end of the wooden pipe in the steel fitting, and after yarning with oakum, the joint will be filled with lead and caulked in the same manner as the joints in iron pipe.

Immediately below the point of connection of the wood and iron pipe, in the 48-inch pipe, will be placed two 48-inch, upright, geared gate valves. These will control the water in each branch of the penstock, and with the connections between the pipes near the wheels, will make it possible to operate the plant with any combination of pipes desired. This is done by a simple cross connection between the existing pipe and the pipes to be installed, gates being introduced into the connection.

This connection will serve to equalize the flow of water in the penstock should sudden draft be made on any one of the lines, and to absorb the shock due to sudden opening or closing of the gates.

The steel pipe portion of the line will be built of taper or telescoping sections, the round seams being single riveted and the longitudinal seams double riveted. It will be shipped to the line in lengths of 28 or 30 feet, these sections being riveted when the pipe is in place in the trench.

The preparation of the trench for the new line neces-

sitated the excavation of some 50,000 cubic yards of material, about 18,000 cubic yards of which was solid rock, the balance being gravel and loam. The line, located as it is within a few feet of the existing pipe, made the use of powder a somewhat hazardous undertaking, and extreme care had to be exercised to avoid injury to the pipe upon which the operation of the plant depended. So far, however, but one accident has occurred, the breaking of an air valve, which caused a temporary shut-down to replace it.

In the preparation of the foundations for the new pipe a number of depressions have been crossed where it was necessary to carry the pipe above the surface of the ground. In these cases timber cribs have been built and filled with rock, instead of the usual trestle construction, which would be subject to the dangers of forest fires.

The line at one point crosses a deep canyon, dropping 200 feet in 1,000 and rising again to the first elevation in the next 600 feet, the grades on portions of the ascent being 78 per cent.

The slope leading from the top of the hill to the power house drops 500 feet in 2,000, the steepest part occurring in the last 1,000 feet, where the drop is 300 feet.

The task of delivering material to these portions of the line has been no small one, though the present construction has had the benefit of the pioneering work done in connection with the first line.

Excellent mountain roads had been built when construction work began, and it was only necessary to put these in repair, and build a few new branches to reach those portions of the line remote from the original line to be able to deliver all the material.

The lumber and bands have been hauled to the tops of the hills on either side of the canyons and from there lowered to the points where they were required. At other points it has been possible to deliver material close to the point required.

The steel pipe will be delivered to the power house on the cars which bring it from the Eastern factory, transporting it over the North Bend Lumber Company's railroad and the Municipal railroad. It will then be placed on skids and hauled to place with a donkey engine, using steel blocks and cables.

The extension of the power house to accommodate the new machines necessitated the excavation and wasting of 3,500 cubic yards of material. Of this quantity 85 per cent. was solid rock, 75 per cent. of which was in the form of boulders ranging in volume from one-half yard to three yards. Owing to the proximity of the power house it was necessary to remove these with as little use of powder as possible, making the removal of this material very slow and tedious.

The foundations for the machines will be of concrete resting on solid rock, it being necessary in some cases to drill holes in the rock to receive the anchor bolts.

The pit into which the draft tubes discharge is also excavated from solid rock, and the waste way, or tail race, will be walled with masonry laid in concrete mortar, the floor being paved with concrete.

All the work so far, with the exception of hauling the lumber and bands, has been done by labor employed directly by the city under the supervision of their own foremen, and the results from an economic standpoint have been very satisfactory. The city has provided its employees with commodious and sanitary camps convenient to the pipe line and power house. A force of seventy-five men had been employed during the winter months, and with the commencement of pipe construction this force was increased to double that number.

Work has been started on the construction of a second pipe line between the Cedar River intake of the present city water supply and the city reservoirs, for which a contract amounting to \$1,172,858 was awarded to Grand Smith & Co. a short time ago. Three new reservoirs are now under construction and they will be completed by the time the first water is sent through the new pipe. Seattle at present has two reservoirs with a capacity of 52,000,000 gallons, which is about two days' supply. Two of the new reservoirs will have a capacity of 50,000,000 gallons, while the third, which will be located on Beacon Hill, will have a capacity of 100,000,000 gallons, being the biggest on the Pacific Coast.

The existing pipe line from Cedar River is wooden-stave pipe, forty-three inches in diameter. The new one will be more than sixty inches in diameter. With the two huge pipes in operation, the inflow from the Cedar Lake headworks to the Seattle reservoirs will be approximately 62,000,000 gallons a day, giving this city probably the biggest per capita water supply of any city in the United States.



CEDAR LAKE, THREE MILES LONG

Cedar Lake, from which Seattle receives its water supply, is located high up in the Cascade Mountains and is one mile wide by three miles long. The water is cold as ice and clear as crystal and flows over a bed of stone. The city health authorities have taken every precaution to keep the water free from contamination and not a camper or settler is allowed to establish himself on the property owned by the municipality and surrounding the entire lake. The same regulations are in force all along



CEDAR LAKE DAM AND WEIR

the entire length of the water shed to the intake pipe, fifteen miles below the lake.

City Engineer Reginald H. Thomson's plans for the improvement of the water shed include the construction of a dam which will raise the level of Cedar Lake at least sixty feet and give Seattle a storage supply which will be adequate for all purposes, regardless of possible drouths.

The power plant above described is three miles down Cedar River, and a part of the power developed here will be used for lighting the city, and it is expected that Seattle will then be one of the best lighted cities in the United States.

Work is progressing rapidly under the direction of Superintendent L. B. Youngs, of the Municipal Water Department, in laying the pipe to the power plant. After driving this the water will pass through the tail race and again into the river, down which it flows for an additional twelve miles before reaching the intake of the wooden mains leading to the city reservoirs.

The generators, transformers and other appliances to be used in increasing the capacity of the power plant are being installed and the city authorities expect the entire system to be in operation by September 15 of next year.

Permission to Exceed Debt Limit

AN act of the Ohio Legislature, which was referred to in the April 26 and May 27 issues of this paper, empowered the State Board of Health to order the construction of sewage disposal plants where necessary for the public health. In a number of cases compliance with this order would be impossible because the cost of such systems would require certain cities to exceed their debt limit as established by the constitution. The Legislature has, accordingly, ordered this restriction to be waived to the extent of permitting cities to raise whatever sums may be necessary for carrying out the order of the State Board of Health; which permits several cities of the State to construct very important plants which could not otherwise have been built. This is well for the sanitary condition of the State, but it unfortunately establishes a bad precedent, and it might be interesting to learn what those who handle municipal bonds think of the matter.

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Readers are invited to contribute to the MUNICIPAL JOURNAL AND ENGINEER, either in the form of special articles or of letters discussing matters of current interest.

It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

SEPTEMBER 9, 1908

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Dredges for Reservoir Cleaning

IN connection with the installing of filter plants, facilities are generally included for cleaning and other maintenance operations by mechanical means and with a minimum of labor. The cleaning of reservoirs, however, is still done in most cases by the old method of emptying and removing the deposit and weeds by hand. Some cities have installed permanent dredges, by which such work can be done without wasting the water and, it is supposed, at a minimum expense. While the initial cost of the apparatus would probably be unwarranted for small reservoirs, for large ones which are troubled with rapid silting or vegetable growths on sides and bottom, some such method of removal would appear to be desirable from many, if not all, points of view. The matter is at least worth looking into by superintendents of plants where such conditions obtain.

COLUMBUS WATER WORKS NOTES

THE Water Works Department of Columbus, O., believes in water meters. On December 31, 1906, there were 23,023 taps and 17,125 meters. One year later there were 24,975 taps and 19,016 meters. The increase during the year was therefore 1,952 taps and 1,891 meters. The average daily consumption in 1901 was 155.4 gallons, the meters then numbering 5,126. This has steadily fallen as meters were added (5,187 were installed in 1902), until it reached 79.7 gallons in 1906 and 80.1 in 1907. The total cost of pumping fell in the meantime from \$70,734.06 to \$60,163.28; the cost per million gallons rising, however, from \$9.76 to \$11.32 in 1906. The average head pumped against has remained constant at 195 feet.

Of the total number of meters 18,923 are owned by consumers and 93 by the city.

In estimating the value of the plant, cast-iron pipe laid during several 5-year periods is assumed to have present values as follows:

Present Value of Cast Iron Pipe, Jan. 1, 1907

Laid during	Present value; per cent. of present cost
1901-1906	96%
1896-1901	88%
1891-1906	80%
1886-1891	72%
1881-1886	64%
1876-1881	56%
1870-1876	48%

In estimating "Present Cost" the following unit prices were used: Cast-iron pipe, \$35 per 2,000 pounds. Lead, 7 cts. per lb. Oakum, 12 cts. per lb. Labor, 17 1-2 cts. per hour. Repaving brick on concrete, \$1.62 per sq. yd. Pipe, laid complete: 4-inch, 84 cts.; 6-inch, \$1.185; 8-inch, \$1.53; 10-inch, \$1.81; 12-inch, \$2.355; 16-inch, \$3.31; 20-inch, \$4.53; 24-inch, \$5.72; 30-inch, \$7.80. Fire hydrants are estimated at \$35 for 4-inch; \$45 for 5-inch; \$50 for 6-inch, and \$80 for 8-inch. The estimated present value is taken as 80 per cent. of the present cost.

Uniform Municipal Accounting

THE Ohio State Bureau of Municipal Accounting, under the direction of Joseph T. Tracy, has completed and put into use in Ohio municipalities uniform systems for City Auditors and Treasurers and Sinking Funds. The Bureau is now preparing a system for municipally owned public utilities such as water works and electric lighting plants and expects to have it completed by January 1st. After the various systems are in force it will be an easy matter to determine a city's credit standing. It might be stated that the systems adopted follow very closely those advocated by the Municipal League.

Cost of Sidewalks and Crosswalks

IN Elmira, N. Y., the cost last year of flagstone sidewalks averaged 95 cts. per lineal foot; cement walks cost 52 1-2 cts. per lineal foot, and tar walks 30.9 cts. per lineal foot.

Stone crosswalks cost \$1.58 per lineal foot, and cement ones 84.9 cts. All work was done by the city.

SMOKELESS COMBUSTION

Investigations by United States Geological Survey—Gas Producer Plants a Solution—Causes of Smoke in Boiler Plants—Ordinances of Fifteen Cities

THE technologic branch of the United States Geological Survey has been conducting investigations to determine the best method of utilizing the coals of the United States. Extended tests on burning coal without objectionable smoke have been made at the fuel testing plants at St. Louis, Mo., and Norfolk, Va. The results of the St. Louis tests have been summarized by D. T. Randall, the engineer in charge of the investigations, in a paper which has been published by the Department of the Interior. An abstract of this report is given below.

At present no city in which a considerable quantity of bituminous coal is burned is free from smoke. The cities of the East have avoided this problem by a general use of the smaller sizes of anthracite coal; but the time is rapidly approaching when the supply of this will become limited and its cost prohibitive.

Gas-producer plants and by-product coke plants readily produce heat or power without smoke, and those interested in their manufacture predict that they will in time be used to the exclusion of boiler furnaces and similar coal consumers. It has been demonstrated at the government testing plant that bituminous coal of all grades can be burned in a gas-producer without smoke, generating a gas which, when used in a gas engine, furnishes power with much greater economy than is usual in steam plants—one pound of a good grade of eastern coal generating a horsepower.

One of the most important facts in connection with the gas-producer plant is that, besides being smokeless, it will utilize coals so high in ash as to be unsuitable for boiler furnaces; western lignite coal being used to advantage in producers.

The centralization of power and heating plants also tends to relieve cities of a large percentage of the smoke given off by small and inefficient ones. Notwithstanding, however, the fact that other ways of utilizing coal are growing in favor, it will evidently be necessary to burn coal in small boiler plants for some time to come. These coal-burning plants will continue to keep the problem of smoke abatement before the residents of large cities.

It is recommended that in order to improve the conditions in any city a record of all equipment and furnaces in the power plants be made, and that improvements, methods of operation, and the kinds of coal used be made a special study. It is only by such systematic methods that the local problem can be solved, as conditions in any one city are generally different from those in others, depending on the amount and kind of manufacturing and the character of the coal available.

The personal element is the most difficult obstacle to overcome in the fight against smoke. Study of the requirements and a desire to obtain good results on the part of the firemen will do more to clear the air in cities than any other one influence.

Being principally the result of an imperfect air supply, smoke can be prevented by providing for sufficient air for its mixture with the gases in the furnace. Well-designed furnaces may smoke to a greater or less degree, depending upon the methods of the firemen, the kind or size of the coal, and the rate at which the coal is burned. They may be expected to give smokeless combustion when burning a suitable coal, except under the following unfavorable operating conditions:

1. When fires are built. The furnaces not being heated to the required temperature, the gases cool below their ignition point and escape unburned.

2. When so much coal is burned on the grate that it is impossible to supply sufficient air without frequent poking. This condition usually results in so large a volume of gas from the coal that it cannot be properly mixed with air and burned in the combustion chamber. On reaching the boiler surfaces it is cooled, combustion is arrested, and soot and smoke result.

3. When the rate of combustion is suddenly increased, as when more coal is added, and fires are poked to get up pressure in short time.

4. When the fires are checked by closing doors or dampers, thus cutting off the air supply. Banked fires are difficult to maintain and start up without smoke. Automatic dampers are frequently the cause of smoke when not properly adjusted or designed.

A reviewing of the city ordinances in force in this country is given in the report. The Baltimore ordinance contains a clause which practically excepts the manufacturing plants of the city. Cases brought into court were dismissed on account of defects in the ordinance, and an attempt is being made by the smoke-abatement league to secure the enactment of one that will be more effective. Of the 660 steam plants in Baltimore, not including heating plants, only 12 are equipped with automatic stokers.

The Buffalo ordinance is not effective, as it simply declares the emission of large quantities of smoke to be unlawful. In addition to the work of the smoke inspector, active efforts to improve the conditions have been made by the Society for Beautifying Buffalo.

The Chicago ordinance makes it unlawful to permit dense smoke to escape from any furnace except for six minutes of each hour during the time when fires are being started or cleaned. Members of the City Club of Chicago have taken an active interest in the suppression of smoke. There has recently been a reorganization in the smoke inspector's office and a committee of engineers has been appointed to assist and advise with that official. The following is a partial list of the equipment installed in Chicago: Plants with chain-grate stokers, 70; with overfeed stokers, 40; with underfeed stokers, 12; with special hand-fired furnaces, 40. In addition to these there are many small plants equipped with steam jets and other appliances.

The Cincinnati ordinance establishes a standard for density of smoke permitted and allows a period not exceeding six minutes in any hour during which the

fires are started. During the past year citizens of Cincinnati have formed a smoke-abatement league and by public subscription raised a fund to pay the salary of a smoke inspector working under the league's direction. The city smoke inspector's office has been reorganized and a number of suits regarding fines for allowing stacks to smoke are pending in the courts. Action on other plants has been withheld until these cases are settled. The furnace equipment in Cincinnati is as follows: Down-draft furnaces, 90; other furnaces, 5; inclined-grate stokers (a) sidefeed, 113; (b) frontfeed, 56; (c) underfeed, 89; automatic steam jets, hand-fired, 48; steam jets, not automatic, hand-fired, 247.

The Cleveland ordinance excepts private residences, but dense gray or dense black smoke from other furnaces is declared to be in violation of the law. According to the records of the smoke inspector's office there are about 1,800 boilers in the city, equipped as follows:

Furnace Equipment in Cleveland

	Boilers.	Plants.
Chain-grate stokers	200	40
Inclined-grate stokers	400	164
Underfeed stokers	170	34
Down-draft furnaces	50	...
Automatic steam jets	400	131
Non-automatic steam jets.....	125	110
Miscellaneous devices, Dutch ovens, etc.....	...	50
Smokeless coal used under.....	500	...

The Detroit ordinance makes it unlawful to allow dense gray or black smoke to escape from any chimney. The smoke inspector is assisted by a committee of the chamber of commerce, and good results are being obtained. It is reported that in 1906 the following new equipment was installed: Mechanical stokers, 108; automatic smoke-prevention devices, 12; steam jets, 16.

The Indianapolis ordinance makes the production of dense gray or black smoke subject to a penalty, private residences being exempt. The efforts toward smoke abatement in this city are confined to the office of the smoke inspector. According to that official's report for the year ending December 31, 1906, the following equipment was in use:

Furnace Equipment in Indianapolis

	Boilers.	Plants.
Underfeed stokers	43	10
Inclined-grate stokers	100	18
Traveling-grate stokers	48	10
Down-draft furnaces	5	...
Smokeless furnaces, brick-arch construction....	15	...
Automatic steam jets.....	65	...
Total number of boilers in operation, reported..	828	...

At present there is no effective ordinance in Louisville and no smoke inspector. A movement has been started by a number of citizens to form a smoke-abatement league for the purpose of securing the passage of an ordinance and the organization of a smoke-inspection department. Last year there were in this city, in addition to the hand-fired plants, 13 plants with down-draft furnaces, 11 with chain-grate stokers, 18 with inclined-grate stokers, and 4 with underfeed stokers.

Milwaukee has an effective ordinance and the smoke-inspection department is doing a considerable amount of educational work among the manufacturers. The inspector reports that during 1905 the following installations

were made: Underfeed stokers, 32; chain-grate stokers, 2; inclined-grate stokers, 15; down-draft furnaces, 6; automatic steam jets, 44; total, 99.

The ordinance of New York City makes no exception and provides a penalty for the emission of dense black smoke from any furnace. The smoke-abatement committee has been active in bringing offenders against the law into court, and a number of power plants are installing additional equipment to comply with the smoke ordinance. In this city 12,200 stationary boilers are on record, but there is no record of the furnaces and equipment. It is reported, however, that there are 26 plants equipped with stokers of the overfeed type and 2 with stokers of the underfeed type. Many of these stoker plants are exceptionally large.

The Philadelphia ordinance declares the emission of smoke of greater density than the established standard unlawful, except from locomotives or steam craft standing with banked fires, or during a period of ten consecutive minutes when fires may be in process of being cleaned or started. Exception is also made of river craft in continuous transit through the city. The smoke-inspection department is assisted by the efforts of the citizens' committee, which has been active in creating a public sentiment in favor of smoke abatement. The number of boilers in the entire city, as reported by the chief inspector, is 8,194, of which 2,132 are using soft coal. The number of stokers and appliances for abating smoke is 220.

The Pittsburg ordinance declares that the production of dense black or dense gray smoke, except from private residences, is unlawful, but while a new fire is being started or the fires are being cleaned such smoke is allowed for a period of eight minutes in any hour.

The St. Louis ordinance provides a penalty for allowing dense smoke to escape into the air. According to this ordinance it is a good defense if the person charged with the violation shall show to the satisfaction of the jury or of the court that there is no practicable device, appliance, means, or method by which the emission of dense smoke could have been prevented. St. Louis has, in addition to its smoke-inspection department, a smoke-abatement committee maintained by the Civic League. According to the report of the smoke inspector for 1906, there were in the city plants with the following furnace equipment: Steam jets, 550 plants; down-draft furnaces, 264 plants; fire-brick arches, etc., 50 plants; automatic stokers, 19 plants.

An ordinance has recently been passed in Toledo, and the smoke inspector is making an effort to cooperate with the owners of plants in the suppression of smoke. The ordinance makes an exception of private residences, dense gray or black smoke from all other furnaces being a violation of the law.

The law governing the abatement of smoke in Washington and the District of Columbia makes an exception of private residences, but provides a penalty for dense gray or black smoke from all other sources. The law is rigidly enforced and there is but little smoke from bituminous coal.

NEWS OF THE MUNICIPALITIES

Divers Subjects of General Interest and Their Treatment by City Councils and Officials—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

ROADS AND PAVEMENTS

Railroad Compromises on Paving Expense

Grand Rapids, Mich.—Establishing a precedent in the State of Michigan, the Council has voted to accept a compromise as recommended by General Manager Freshney of the Board of Public Works relative to the Bridge street paving expense incurred by the city in behalf of the Grand Rapids Street Railway Company. Council acted upon the recommendation and advice of City Attorney Taggart and will settle the \$1,578.66 claim against the street railway company for \$1,200. The precedent is established through the fact that this is the first time in the history of the city that the municipality has attempted to collect a bridge paving debt from the company on any new bridge that has been erected. The work was done several years ago, but it was not until last May that a bill was sent the company for paving between and eight inches outside of its rails on the bridge. The company disclaimed any legal liability, but agreed that there was a claim in equity.

Free Paving Plant and Improved Streets

Grass Valley, Cal.—The new asphaltum paving plant has arrived for the company of local men who will operate it in paving streets and laying sidewalks, and indications point to the fact that the city will soon see the very finest streets being built at an unusually low cost. After the company has performed sufficient work here to pay for the actual cost of the plant it will be presented to the municipality free of cost. The city needed the paving plant, but did not have the funds, and its patriotic citizens with means made the offer to the Board of Trustees. They are not in the business for profit, and will lay the material at cost, plus running expenses.

Board of Works Must Give Notice

Lancaster, Ky.—By a unanimous vote of the Board of Aldermen at a special meeting the ordinance vetoed by Mayor Grinstead repealing an ordinance requiring the Board of Public Works to give notice of street improvements to owners of abutting property was rescinded. When the veto message was received the ordinance was before the Board under a resolution to reconsider. The ordinance was designed to allow the Board of Public Works to order sidewalk construction or improvement without notifying owners of property which would have to bear the expense, in order to relieve it from the work of issuing the notices and the annoyances of hearing protests of dissatisfied persons.

Wood Block Here and Abroad

Newark, N. J.—August F. Eggers, member of the Board of Works has just returned from Europe, where he made a study of street paving, particularly wood block pavement, which has been named by the Board for use on Market street. Some of the streets there were paved with block which came from Australia, and they are used on fashionable boulevards, which are not used for heavy traffic. In Munich, the capital of Bavaria, wood block is used extensively, and costs \$5 per meter, which is a little more than a square yard. The streets look very nice and are noiseless, but the work is not rushed there as in this country, great care being exercised in putting the blocks together. Besides, they are very slippery in winter and are not used much in cold weather. Granite block is used on all streets where there is heavy traffic, and it is as smooth as a mahogany desk, thus doing away with much of the noise made by vehicles. A number of the streets of Stuttgart are paved with wood block, which is also used between the trolley tracks and for a foot on each side. Mr. Eggers expressed his doubt that a street here could be properly paved with wood block under \$6 per square yard, owing to the increase in labor cost.

To Prevent Tearing Up of Pavement

Salt Lake City, Utah.—To prevent the tearing up of new pavement, for two years at least, an order will be made that no permits will be issued for new connections inside of that time, thus compelling all public service companies to put in sufficient service connections to meet all emergencies before the asphalt is laid. L. C. Kelsey, City Engineer, suggests that a \$100 fine be imposed hereafter on all who dig up the pavements for a period of three years after they are laid. He says that much tearing up is unnecessary and a good stiff fine would prevent it.

Would Have State Tax Go to State Roads

Trenton, N. J.—State Road Commissioner Frederic Gilkyson says that the provision in the present automobile law which distributes the moneys for automobile registration and fines to counties proportional to the number of miles of improved roads it has, regardless of whether their roads were built with or without State aid, is unfair, and he doubts if the intention of the legislators was that it should operate to give so much money to cities for roads entirely under their jurisdiction. The law requires that the money be distributed to counties in proportion to improved roads except those paved with cobble stone, Belgian block or asphalt. This operates to give counties containing large cities paved with brick, as well as macadam, large sums of money.

SEWERAGE AND SANITATION

Baltimore Lunchrooms Must Clean Up

Baltimore, Md.—Twelve restaurants in the business section are under close watch by the Health Department, as the result of an inspection instituted several weeks ago. While many minor cases have been discovered, showing a disregard on the part of the restaurateurs of sanitary laws, the twelve cases mentioned are the most flagrant. The chief trouble is with the lighting and ventilating arrangements of the kitchen and the proximity of kitchens to toilets. Bad ventilation, conducive to a stagnation of the air in the cooking quarters, and the consequent danger of uncleanliness in the foods prepared, was noted in every place.

Columbus Sewage Disposal Plant at Work

Columbus, O.—The sewage disposal plant is practically completed and a trial run of the sprinkler heads was made August 23. It is expected that the plant will start in operation about October 1. A change from what was first contemplated in the operation of the plant is the use of a head varying from three to eight feet on the sprinklers instead of a constant head. This gives better distribution.

Benefits of New Milk Inspection System

Troy, N. Y.—During the month of July 139 samples of milk were examined by Health Officer Nichols. This summary includes also 11 samples examined in June, making in all 150 samples. The result shows that 70 per cent. of the samples are up to or above the standard. Nearly all those below standard are rendered so by containing an excess number of bacteria. This excess bacterial content is due either to careless or uncleanly methods of collection or to a failure to keep the milk at a temperature sufficiently low to prevent a rapid multiplication of the bacteria, or possibly to both. By comparison with the results of the examination of the milk supply carried on before the present system of milk inspection was begun, a marked improvement in the quality of the milk retailed is found. The results of the first investigation showed 50 per cent. of the samples examined contained an excess number of bacteria, while at present 23 per cent. were in excess. In the former investigation 44 per cent. of the samples contained less than 3 per cent. of butter fat while at present only 4 per cent. of the samples are below the standard.

Milk Law in Colorado

Colorado Springs, Col.—The City Council has passed the long-pending milk ordinance which prohibits the sale of milk, cream, buttermilk or butter in the city, from cows that have not been tested for tuberculosis within a year, and forbids the sale of milk, cream and buttermilk that has not been pasteurized at a minimum temperature of 180 degrees Fahrenheit. All persons selling milk, cream, buttermilk or butter of their own production (meaning private owners) must take out a permit from the Health Department. The same clause regarding the sale of milk in bottles or original packages is inserted in the amended ordinance. To protect owners of cows who might otherwise be charged an exorbitant fee by the veterinary surgeon who tests the animal, the ordinance provides that a maximum fee of \$1 shall be charged for testing cows in herds of from 15 to 30. Although the veterinary surgeon cannot be compelled to do the work for any fixed price, the clause exempts the owner from prosecution under the ordinance in case he refuses to pay more than \$1, and should this occasion arise, the Health Department will probably provide for the testing of the cow.

Milk Inspection in Indiana

Indianapolis, Ind.—Ivan C. Weld, of Washington, who is connected with the United States Department of Agriculture, has come to Indiana to aid the milk inspectors in bringing about some reforms in the dairies of the State. He is now inspecting the dairies that supply Indianapolis with milk. After an investigation here he will go to Lafayette, Crawfordsville, Muncie, Evansville and the lake cities and towns, including East Chicago, Hammond, Indiana Harbor, Gary and Michigan City. Though he has been here only a short time, Mr. Weld has observed enough to convince him that Indianapolis needs a staff of field inspectors to visit the dairies regularly and frequently. "I understand," he said, "that there are about 800 dairies in the vicinity of Indianapolis, and proper inspection of these would require a number of inspectors. After orders to clean up have been given and changes have been recommended, an inspector should be able to make additional visits thereafter to see if his suggestions and orders have been carried out. The work should be constant and thorough. My mission here is merely to co-operate with the inspectors and to aid them in working out a number of problems that have appeared." Mr. Weld spoke highly of some of the dairies visited by him. One dairy, he said, scored 85 out of a possible 100 points.

Bad Meat Causes Crusade

Louisville, Ky.—The City Health Department has begun a general crusade against the venders of impure meat and other eatables and warrants have been taken out for several grocers. The warrants allege that decomposed pork and beef were exposed to sale side by side with fresh meat.

Anti-Spitting Law in Johnstown

Johnstown, Pa.—Agents of the Board of Health have been kept busy recently posting new anti-spitting notices in public buildings of the city and about the streets. The city is now thoroughly placarded and the police will enforce the rule.

Disease Preventives for Schools

Washington, D. C.—Health authorities of the District are planning a system by which it will be possible to lessen diseases among children attending the public schools. The object is to check the spread of diseases among the children, and all cases brought to the attention of the school medical examiners will be isolated. Children suffering from contagious diseases will be prevented from attending school, and members of the examining board will make daily visits to the homes of the afflicted. It is likely the authorities will decide to appoint several trained nurses to assist the medical examiners. The Health Office also believes that all children suffering from minor ailments should be furnished with instructions for their parents explaining the condition of the child and suggesting the remedies to be used.

WATER SUPPLY

Water Works to Be Sold

Bath, N. Y.—The Bath water works system has been in operation for twenty years, and now, instead of yielding a fair dividend upon its stock, is about to be sold upon mortgage foreclosure. Its first bond issue of \$60,000 is due, and in order to satisfy that issue, the Farmers' Loan & Trust Company, of New York City, representing the first bond holders, together with the second bond holders, who have holdings of \$40,000, has filed the initial papers in the Steuben County Clerk's Office to foreclose the mortgage and dispose of the property. Turner, McClure & Horan are attorneys for the plaintiffs. Besides the two bond issues there is stock to the extent of \$72,000, which is held by one Kizer, of Towanda, Pa., who for a number of years has exercised control of the property. Estimates as to what price the property will command at its sale vary from \$45,000 to \$60,000. The water works company during this twenty years has received approximately \$3,000 from the village yearly for its municipal service; added to this has been a small patronage from private consumers. To-day, while the private patronage is the largest in the company's history, there are only about 450 private consumers in a town of fully 1,500.

Monthly Bills for Economy

Columbus, O.—In order to enable water users to keep a closer watch on their meters and have them repaired before there has been much waste, Cashier Prentiss R. Crall of the Water Works Department has suggested to the Service Board that monthly instead of semi-annual collections of bills be made, when the bills are \$2.40 or more a month. There would be 1,200 to 1,500 such bills. The change will not be made until a new rate, based on filtered and softened water, is fixed. This may not be until December 1.

Meters in Demand in Pittsburg

Pittsburg, Pa.—Wholesale installation of water meters is going on by big factories and industrial plants on the North Side. This is a result of their being asked to pay the same rates as are assessed against corporations in Pittsburg proper. Under the old Allegheny régime corporations were favored. Their just share of water taxes were paid in a large measure by domestic consumers. Now private consumers are assessed much less and corporations more. In one instance a firm was paying \$75 a year for water service, which was assessed at \$4,500 this year. In Pittsburg proper meters have been generally in use among manufacturers for several years. They have found the system considerably cheaper. Less water is wasted. There is also a rush among domestic consumers to install meters. There are 1,400 applications for meters now pending in the Bureau of Water. All were filed within the last few months. Until the present time, the Water Bureau has had no meters in stock. Recently 1,200 new meters were received and are being tested. A contract for 2,400 meters was let some time ago. Work of installing them will begin at once. The city furnishes the meters and the property owners have them installed. The Water Bureau will put in meters on demand, but as the force of city plumbers is so small, consumers put them in to avoid delay. The proportion of domestic consumers paying for water by meter rates is small, but, it is estimated that within five years practically the entire city will be using meters. In the district between the two rivers about 2,200 premises of a total of 45,000 are paying for water by meter rates.

Town May Forbid Use of Impure Water

Put-in-Bay, O.—The Attorney General's Department has rendered an opinion to the effect that Put-in-Bay may contract with a private company to furnish water to the city and forbid citizens to use the polluted water from the bay. The village is up to the debt limit now in constructing its much needed sewerage system and cannot afford municipal water works at this time.

Warning Because of Drought

Harrisburg, Pa.—Realizing the added danger from typhoid fever that results from the present low condition of the streams throughout Pennsylvania, State Health Commissioner Samuel Dixon has given out a letter to the public, urging the need of special caution against unboiled water. Dr. Dixon says that although municipalities all over the State are cooperating with the Department of Health to bring about the purifying of the streams, it must necessarily be years before the filthy conditions that prevailed for so many generations can be eradicated. He adds:

Our work, however, extends over 45,000 square miles, inhabited by 7,000,000 of people who for over a century were using our streams as open sewers, or depositing the sewage so that it washed into the waters that were used for drinking and other domestic purposes. While the health authorities are doing all in their power under the law to have the vast number of old and bad sewerage systems changed and to have the private sources of pollution removed, the people must listen to advice and boil all the water that comes from surface streams and from all other sources which are exposed to the infection of the poison of typhoid fever. Unless the people do heed this advice and go hand in hand with the health authorities by taking every precaution, they run a very great risk of contracting typhoid fever.

Court Refuses to Restrain Payment

Portland, Me.—The petition of certain residents of Portland for an injunction to prevent the Trustees of the Portland water district from paying the expenses of attorneys' fees and expert witnesses incurred in the formation of the district and court proceedings incident to taking over the properties of the Portland Water Company and the Standish Water and Construction Company is denied by Justice Savage in the Maine Supreme Court. The expenses amounted to \$127,000 and included a fee of \$50,000 for the leading attorney for the district. The petitioners asked that the "necessity, reasonableness, legality and justice of the bills be determined by a proper tribunal before payment," claiming that the bills rendered "by some if not all of said attorneys and experts are wholly unreasonable and exorbitant."

Bursting Water Main Does \$100,000 Damage

Rochester, N. Y.—A 36-inch water main burst at the corner of Main, West and Elizabeth streets recently and for six hours until all water gates in the vicinity could be shut off, a torrent of water poured down Elizabeth street hill into Hill street and Allen street, tearing up the pavement, ruining conduits under the pavement and flooding the cellars of factories and houses. The asphalt pavement of Main street West was undermined for a long distance, the canal bridges operated by water power were put out of commission, and several business places were obliged to close for the day. The damage is estimated at \$100,000.

STREET LIGHTING AND ELECTRIC POWER

"Great White Way" in Baltimore

Baltimore, Md.—The inauguration of permanent illumination of Baltimore street from Eutaw to the bridge, on an extensive scale took place recently and the public, by invitation of the Central Business Men's Association, was out in force to see it. Between 7 and 8 o'clock the switch which controls the lights was pulled by Robert J. McCuen, Superintendent of the City Lighting, and the lamps blazed forth, making Baltimore street one of the best illuminated streets in the world. There are six double lights of the boulevard type on every square, which should make the street a continuous blaze of light and undoubtedly the "Great White Way" of Baltimore. The association has tendered its thanks to Mayor Mahool, the Board of Awards and especially to Mr. McCuen for their splendid services in the matter.

Lighting Bills Held Up

Oneida, N. Y.—A resolution has been passed by the Common Council to the effect that no bills of the local lighting company for lighting the city be paid until the company lived more fully up to the requirements of its franchise. The company has, it is alleged, failed to properly light the streets of this city.

Saving in Lighting Boston Streets

Boston, Mass.—Superintendent of Streets Guy C. Emerson has signed a one-year contract with the Rising Sun Street Lighting Company for lighting the city's gas, gasoline and naphtha lamps, numbering some 12,300, without making the provision that the city's lamplighters be employed by the company at \$2.25 a day, the rate now paid by the city. The company will engage practically all the lamplighters now in city employ for \$2 a day, and claim that in Baltimore they get \$1.14 a day and in New York \$8 per week. The company is to receive from the city \$15.60 per year for each lamp at present in use and at the same rate for all new ones that are installed. The company's original bid was \$25.20, but this included the gas, for which the company would have to pay \$9.60 a year per lamp. The city can get gas cheaper than any private concern, so the \$9.60 was omitted from the contract. The city will continue to get the gas at a cost of \$9.36 per lamp, a saving of twenty-four cents on each lamp.

Testing Mains for Sixty-cent Gas

Indianapolis, Ind.—The Citizens Gas Company, which is looking forward to February 8 as the date on which it hopes to begin giving Indianapolis 60-cent gas, has begun the work of testing its mains and service pipes. During the last month a force of men has been going over the lines and shutting off all avenues of leak, such as old service connections. With all of these closed, Engineer George Summers is now beginning the work of finding out if there are any breaks or rusts or leaks from any other cause. He has had built a big air pump, driven by a gasoline engine, and, taking different sections of the city separately, is filling the pipes with air and running its pressure up to twenty or thirty pounds. Where leaks are indicated but are impossible to locate, the air pump will pump sulphurated hydrogen into the pipes and the rotten egg smell is to be relied on to proclaim the whereabouts of the leak.

Underground Wires for Seattle

Seattle, Wash.—Councilman Eugene W. Way has introduced a bill in Council authorizing the Board of Public Works to order all public service wires underground along any streets paved after the bill becomes a law, all poles to be removed within two years from the date of the paving improvement. "The intention of this bill is to get the conduit work started in the various districts that are to be paved within the next few years," Mr. Way explained. "I understand that it is up to the Council to order the removal of poles and the placing of all wires underground. Another bill will be required to cover the territory already paved. All franchises carry a section which gives the city authority to require nothing but underground construction and the removal of unsightly poles, and my bill is but a start toward a general elimination of pole lines from all streets."

FIRE AND POLICE

Proposed Combination Salvage and Chemical Wagon

Memphis, Tenn.—Another effective piece of fire-fighting apparatus has been added to the department in the shape of a combination salvage and chemical wagon, built by the local firm of Boutall & Dix. In the course of construction several departures were made from the ordinary run of salvage trucks and the result is apparent from the fact that the local corps has the handsomest as well as the most durable truck in the South. The best material that could be secured was used by the constructors, and as the brake now in use has given more or less trouble the wagon was fitted with an apparatus known as the friction brake, being similar to the ones used on racing cars and other vehicles where quick action is essential. The trial held in the yards of the wagon shop have demonstrated the usefulness of the new brake and it is expected to meet with great success. The axles are roller bearing and are of the best material obtainable. The springs used were constructed by special order and are of a pattern which has been found entirely successful in doing away with all unnecessary jolting.

Would-Be Police and Firemen

Jersey City, N. J.—Police Clerk Van Winkle, in his capacity as Secretary to the Civil Service Commission, has given out 379 application blanks for firemen's positions and 221 blanks for positions in the Police Department. The reason that the number of applicants for firemen so largely exceed those for policemen's positions is contained in the fact that the salary of a fireman for the first year of his service is \$1,000, while a newly-appointed policeman gets only \$720 the first year. Furthermore, the maximum salary of a fireman is \$1,300, which sum is reached by an annual increase of \$100 per year for three years. The novice in the police business must serve five years before he reaches the \$1,200 yearly salary stage. There are only nine vacancies in the Fire Department and sixteen in the Police Department.

Springfield's Auto Apparatus

Springfield, Mass.—The new combination chemical and hose auto, which will replace hose 7 in the Chestnut street fire station, has been completed and officially accepted by the Fire Commissioners, making the fifth piece of auto apparatus in service in the city. The Knox Automobile Company delivered it to the Pynchon street fire house, and after being fitted out with hose, it was given a severe test by the Fire Commissioners and Chief Daggett. The new machine will be operated by a crew of five men. It is the same model as that of the two squads now in use, all three autos being model "G." Provision is made for 1,000 feet of 2½-inch water hose, but only 950 feet has been placed in the auto, as this is deemed sufficient for the present. The following description is given:

The new machine is driven by a 40-horsepower, four-cylinder air-cooled engine; the wheelbase is 112 inches, tread 58 inches, tires 40 inches by 6 inches, Fisk H. C. T. pattern, with demountable rims. The front axle is I-beam, nickel-steel and the rear axle is two inches square. Timken roller bearings are used on all road wheels, and the frame is made of pressed steel. The ignition will be by dry cells and magneto, and the transmission is of the selective type, three speeds forward and one reverse, with chrome nickel gears, driving an extra heavy double chain. The foot brake applies on the countershaft, and the band brake applies to the hubs of both rear wheels. The springs are semi-elliptic, nickel steel; lubrication is force-feed, and all drop forgings are made of nickel steel. The auto equipment consists of a siren horn, auto horn, necessary tools, extra parts, odometer and jack, two 8-inch Rushmore headlights and one 9-inch Rushmore searchlight mounted on dash, supplied by gas tank and electrically ignited by push button, and one tail lamp. The fire equipment consists of one 35-gallon chemical tank of Halloway type, 200 feet of ¾-inch chemical hose and reel, one chemical hose nozzle, with ¼-inch tip, one 3-gallon pony extinguisher and brackets, one 4-pound pick head axe, one Detroit door opener, two hand lanterns and two brackets for carrying water play pipes. The price complete is \$5,000.

The auxiliary squads are now manned by eight men each, six of whom sit in the body of the wagon while two are stationed in the front seat. In the new apparatus two will sit in the front seat, and three remaining members of the crew will stand on the rear, the entire space in the body being used to store the hose. The chemical tank is located directly beneath the seat, while the reel is fastened on four brackets behind and above the front seat. The new machine weighs 6,800 pounds complete with all equipment, which is about 16,000 pounds more than the others.

Contest of Police Dogs Held in Paris

Paris, France.—After a two days' competition in which eighteen police dogs were entered, Jules, a Belgian, owned by M. De Tedesco, Auderghem, near Brussels, was awarded the championship with a purse of 300 francs. Porthos obtained the first prize of 200 francs and a silver medal. One of the most trying tests was the offering of a choice morsel of meat from a stranger's hand, which they are trained to refuse. The ceasing of an attack on order of the master was another difficult feat successfully performed. Other features of the programme of the competition included obedience, word of command, jumping over palisades up to three yards in height, defence of an object which the animal had been told to watch, attack on an individual padded like a mattress, who was supposed to be a criminal threatening his master, and the discovery of a hidden malefactor.

GOVERNMENT AND FINANCE

City Revenue from Sidewalk Stands

Boston, Mass.—A recent report by the Street Commissioners concerning the effect of the law of 1907, granting to them and the Police Commissioners power to grant licenses for the storage and sale of merchandise in the public streets, showed that the city had collected in twelve months \$25,000 from a source which never had yielded revenue before. Nearly every occupant of a basement in the market district found that he could not do business unless he was given permission to maintain a stand in front of his premises, to make sales therefrom. In some instances storekeepers rebelled, only to repent in a short time with the admission that their business had fallen off greatly since removing their goods from an easy public view. As high as \$15 is charged standkeepers by owners and lessees of buildings for a Saturday afternoon and evening. Under the system which prevailed before the law went into effect there seemed to be no limit to the space which standkeepers might occupy, and in some places almost the entire sidewalk and a good part of the street was used for carrying on a private business.

Double Receipt System Popular

Bay City, Mich.—No more popular innovation, it is claimed, was ever introduced in Bay City than the system recently put into effect of mailing to taxpayers receipts and duplicates of their indebtedness to the city. The same plan is now in vogue as was introduced in the Water Department when the MacPherson system of bookkeeping was adopted by the city. To every taxpayer this year has been sent a tax receipt and a duplicate, showing the description of property and the amount due the city. This blank is presented to the City Treasurer, who signs the original and keeps the duplicate, stamping both paid, and the transaction is ended so far as the taxpayer is concerned. Heretofore it has been the custom for the treasurer to make out a receipt when a taxpayer called to settle his yearly account, and it was also necessary to make an entry in the books, this often consuming considerable time and causing annoyance.

Increase in Boston Tax

Boston, Mass.—Boston's tax rate for 1908 has been announced by the Board of Assessors as \$16.50 on each \$1,000 of valuation. This is an increase of 60 cents over last year's rate. That the rate has been kept down to this figure is regarded with satisfaction by Mayor Hibbard and City Hall officials, for it was feared that it would be likely to go as high as \$17, owing to the large increase in the State tax. This is the highest rate since 1884, when the tax was \$17 on a \$1,000. The total valuation for the city of Boston is \$1,327,661,338, divided as follows: Real estate, \$1,082,404,300; personal property, \$245,257,038. The State tax is \$2.22 per thousand, which is an increase of 42 cents over last year. The county tax is 94 cents per thousand, which is an increase of 4 cents over last year. The city tax is \$13.34 per thousand, an increase of 14 cents over last year.

Good Price for Bonds of Burned City

Chelsea, Mass.—Bids for the Chelsea bonds issued under an act of the Legislature were opened recently by the Board of Control, and pleased the members of the Board in view of the present state of the money market. The bond issue is for \$400,000 4 per cent. bonds dated September 1, 1908, and payable in September, 1958. The bids are taken to be the first real indication of what outside capitalists think of Chelsea's ability to build herself up again. The figures were above normal, Perry, Coffin & Burr, of Boston, bidding with E. M. Farnsworth & Co., were awarded the bonds on a bid of \$103.159. By this, Chelsea will receive \$12,063 in premiums, and the net interest on the bonds will be 3.83-100 per cent. In four months after the fire buildings representing more than \$1,000,000 are in process of construction, and this, with the bids for the new bond issue, according to the Board of Control, assures that the people and financiers are satisfied that the city will get itself once more upon sound footing.

President Eliot on City Government

Boston, Mass.—President Charles W. Eliot, of Harvard University believes that the Police and Fire Departments should be made metropolitan, just as the water and sewerage system are to-day, and so stated recently to the Finance Commission. He would have one administrative board elected at large in place of the present double-chambered City Council. He would place the executive powers in a small board rather than in a single Mayor. He would make this board of seven men, the Mayor being only the Chairman, and without veto power. The application of the Massachusetts Civil Service law to the whole city, and some provision for complete publicity for all doings of the City Government also forms part of his plan. He looks with some favor as a means of putting more direct power into the hands of the people upon the referendum, and under suitable regulations would regard it as desirable in a new Boston charter.

Contracts Also for Small Expenditures

Scranton, Pa.—City Comptroller Edward J. Eisele has been called upon to decide a very embarrassing problem in municipal affairs which has recently presented itself for solution in the shape of several bills for repairs for which no contract was drawn. The bills amounted to something like \$150 apiece, and in themselves were unimportant. The fact, however, that no contract was employed in doing the work caused the City Comptroller to sit up and take notice. He informed the Director of Public Safety, F. L. Wormser, and the Director of Public Works, Charles R. Acker, that under the law, he had no power to O. K. the bills, as his interpretation of the act of Assembly covering such matters is that a contract must be signed for every penny of city money that is disbursed.

Independent Engineer Department

Springfield, Mass.—The City Engineering Department will, in the near future, be independent of the Water Department. The Water Commissioners, instead of appropriating a payroll of \$2,500 to the Engineering, will appropriate a sum outright to the Department itself, and when the services of engineers are wanted City Engineer James L. Tighe will be notified. It is a probability, too, that the Gas and Electric Light Department will make a similar appropriation, although not quite so large a sum. As it is now the Lighting Department secures the service of the City Engineer when wanted and makes no provision in payment.

Banks Must Pay Taxes on Deposits

Hoboken, N. J.—According to a resolution adopted by the Hoboken Board of Assessors, the National banks of Hoboken will, in future, have to pay taxes on deposits made in the banks. The Secretary of the Board has been instructed to notify the First and Second National banks to file at the Tax Office a list of all balances of \$100, or over, to date from May 20, the time from which the assessment is made. Hitherto, the National banks of the city have been exempt from all local taxation on non-taxable securities, including mortgages. This left the banks paying taxes only on their real estate—the smallest part of the valuation. On this account the taxes on over \$400,000 have been lost to Hoboken.

More Prompt Return of Fines Demanded

Johnstown, Pa.—Finding repeated requests of little avail, City Comptroller John H. Horrocks has applied to City Solicitor W. David Lloyd for some effective method of directing the attention of Johnstown Aldermen to the fact that the law requires them to pay into the city treasury every month all fines and penalties collected by them for violations of city ordinances. The City Solicitor is now preparing an opinion on the subject, and it is altogether likely that the course indicated by him will be promptly followed. The city books show that, with very few exceptions, local Aldermen have been in the habit of making their returns of fines collected for city offenses pretty much when they please. In a number of instances such returns were not made for nearly a year at a time and in most cases payments were made not oftener than quarterly.

REFUSE COLLECTION AND DISPOSAL

Work of Cleveland's Garbage Plant

Cleveland, O.—Municipalities all over the country are taking great interest in Cleveland's city garbage plant, and W. J. Springborn, President of the Board of Public Service, daily receives inquiries from all over the country and even from foreign cities. The garbage plant is now running its full capacity and turning out 4,000 tons of fertilizer a year. Over 250 tons of garbage are collected daily.

Garbage Troubles of Various Kinds

East Liverpool, O.—The Health Board has up the garbage question again, as complaints have come to the Board so frequently of late in regard to the foul odors that are emitted from the sanitary reduction plant maintained at the foot of Market street, that a polite demand is to be made upon Rinehart Brothers, who have contracted with the Health Board for the removal of the garbage of the city, to take immediate steps to remedy the nuisance. Pending the completion of a new furnace outside of the city, the Board granted Rinehart Brothers the right to operate the local plant for 60 days, dating from August 3 last. The Board has no desire to revoke this concession, but it feels that something must be done. The old question of excessive charges was also up, and as the contractor has a fixed price for the removal of certain kinds of garbage the Board proposes to insist that this rule be properly respected. Other complaints were heard of the failure of the garbage collectors to cover the city properly, some reporting that they hadn't been able to get sight of a garbage collector for weeks at a time.

City Balks at Managing Plant

Evansville, Ind.—City officials failed to arrive at any conclusion after discussing for an hour or more the proposal that they take the plant of the defunct Smokeless Fuel Company from the bankruptcy buyers, C. W. Kanzler & Son and A. L. Swanson. F. G. Wiseloge, of Indianapolis, Superintendent of Construction of the United States Construction and Utilization Company, of Rochester, N. Y., was present to explain things about the plant. He is the inventor of much of the machinery used there, and he assisted in placing such machinery in position. He says that with a system of condensers and a little different arrangement of machinery the plant can be odorless. He said that President Walter Thiele, of the Old Smokeless company, had failed to get a full equipment. Acting Mayor Nolan believes the only practicable way is absolute destruction, and he is not in favor of putting the city into the producing class as a manufacturer of fertilizer and the byproducts of garbage reduction. The question is still open but several city officials have declared themselves informally as being against any experiment with the Smokeless plant. Secretary J. W. Welborn, of the Board of Health, says he does not see what the city would gain by taking the plant. The city may return to the old crematory.

Street Cleaners in Jersey City

Jersey City, N. J.—The budget as adopted provides for a change in the present Street Cleaning Department in the wages. Beginning December 1, the commencement of the fiscal year, a permanent force of 110 laborers will be employed at \$2 a day each and provision is made for the steady employment of each man for 300 working days each year. There will be 35 drivers of carts at \$2.50 a day each.

Incinerator Improvement Over Crematory

Santa Clara, Cal.—The new garbage incinerator for burning the rubbish after it is hauled to the old Knowles property has proven a big improvement over the old method of cremation. The garbage was formerly burned in the open, and emanated a highly disagreeable odor. The new incinerator, which was completed under the direct supervision of City Engineer C. E. Moore, has a 50-foot smokestack. It has been given several tests, and the results were very satisfactory, but it has been decided to install a crude oil burning system with it, so the garbage will be destroyed the more rapidly.

Work of Wheeling Crematory

Wheeling, W. Va.—The monthly report of the Superintendent of the Crematory showed an average of 99 loads per week for the month of August and the total for the month of almost 400 loads, an unprecedented record. All the furnaces at the crematory are in operation both day and night and it is taxed to its utmost capacity.

RAPID TRANSIT

Signs to Indicate Seating Capacity

Boston, Mass.—Following a trial on the elevated cars, little signs, stating, in neat black letters, "Seventeen Seats," are to be installed over all the longitudinal seats on the surface cars of the Boston Elevated as rapidly as they are sent through the shops for repairs on their winter coat of paint. Many of the cars are so equipped now. The idea of installing signs on the elevated cars was put into effect early in July. They state "Twelve Seats" over each of the four benches. They proved of considerable value to conductors in quieting disputes about the occupancy of seats, most of which are attributable to overcrowding.

Exact Fare, or Pay a Nickel

Cleveland, O.—If the passenger has his three pennies handy, he can ride for three cents on the street car lines of the Municipal Traction Company. The directors decided that three-cent cash fare shall be accepted, provided the conductor need not make change. Cash fare proffered in form other than three pennies will be five cents. A minimum of five tickets will be sold for 15 cents. "The people have learned to buy tickets or to have change by this time," said Mayor Johnson. "Our only object in abolishing three-cent cash fare was to save the conductors making change, which made it impossible for them to collect all fares."

Moving Sidewalks and Aerial Railway

Duluth, Minn.—The plan of John Edward Roemer, Parisian Engineer, to install a system of moving sidewalks in Duluth, met with the approval of members of the Council Committee on Streets, Alleys and Sidewalks at a meeting recently in the City Hall. Mayor Haven, City Attorney Wilson and City Engineer McGilvray also attended the gathering and listened to the detailed plans of Mr. Roemer. The plan to establish a single-track aerial railway between Duluth and Fond du Lac, seem entirely feasible, and it is quite likely that the use of at least one avenue will be granted to carry on experiments. One problem to be overcome locally is the crossing of alleys in the middle of every block without damaging the property adjacent. The plans as presented by the Engineer would necessitate the closing up of alleys to wagon traffic at one end, as the rollers of the sidewalks could not be passed over by heavy wagons, although small platforms would be placed for pedestrians to cross. Mr. Roemer plans on building his first walk along First avenue east, from Superior street to Twelfth street, provided the city gives its consent. At Twelfth street a pavilion would be erected, and the aerial railway to Fond du Lac would start there. The railway would also have stations at West End, West Duluth, New Duluth, Ironton and Fond du Lac. It is proposed to charge 5 cents between stations on this line and 2½ cents on the moving sidewalks.

Prepayment Cars a Success in New York

New York, N. Y.—That the Metropolitan receivers are well pleased with the operation of the pay-as-you-enter cars is evident, as 75 more cars have been ordered. The cars are to be delivered as soon as possible.

Fines for Charged Rails

Puyallup, Wash.—An ordinance has passed Council requiring all railway companies to keep their tracks in proper repair and to prevent the rails from becoming charged with electricity. On failure to do so a fine of not less than \$25 nor more than \$100 is to be imposed. This measure arises from the fact that the rails on the Tacoma Railway and Power Company's line have held such a strong charge of electricity recently that horses have been often knocked down in crossing them.

Four-cent Fare in Youngstown

Youngstown, O.—Twenty-five tickets for \$1, with universal free transfers, will be the fare on the street railway system of this city for twenty-five years if the Consolidated Company accepts the franchise voted it by the City Council. The passage of the reduced fare ordinance marks the end of a thirty months' fight. It is understood the company will accept the four-cent fare franchise.

MISCELLANEOUS

Baltimore Completes Model Park

Baltimore, Md.—During the summer Latrobe Park has been transformed from an almost barren lot into a modern park and playground. Most of the improvements which the Park Board planned are either finished or nearing completion. The bath-house and locker room, which is a one-story brick building, 60 feet long by 30 feet wide, is finished. The floors are concrete and the building is built on a concrete foundation. The locker room has 200 sanitary steel lockers. There are separate rooms for girls and boys. Hot and cold shower baths will be installed. Over the concrete sand pit in the playground an awning has been erected. The canvas, which will be later covered with vines, is supported by sixteen concrete columns. A shelter house 70 feet long has been erected on the playground to protect the children from the rain. A sanitary drinking fountain, such as has been used in some of the settlement houses in New York, is being tried. No cup is used, the child placing his mouth over a pipe, whence issues a stream of water.

Awnings as Hung in 'Frisco

San Francisco, Cal.—The Police Department has started a crusade against awnings, which, it contends, are maintained in violation of the municipal law, and were erected without permits. A large number of applications for permits have recently been filed with the Board of Public Works, and in each case the applicants stated that they had been notified by the police that the awnings would have to come down or be reconstructed to comply with the ordinance. The applications are being treated by the Board as though they were dealing with awnings yet to be erected, and were all referred to the Building Department for inspection. Under the ordinance it is illegal to maintain an awning supported in any other way than by wrought-iron brackets attached to the building, except where the awning is made of glass set in a metal frame, and it must be raised at all times unless the sun be shining directly on the spot which it is designed to protect. Among the applicants for permits are several prominent hotels that are maintaining awnings which have additional supports running to the sidewalks. The hotel keepers contend that the awnings in no way interfere with travel, and, further, that they serve a very useful purpose.

City Hall Bell Now Silent

Utica, N. Y.—It has been deemed wise by the municipal authorities to discontinue the practice of ringing the City Hall bell in case of fire, as the sounding of a box in this manner is always the signal for a crowd of people, prompted solely by curiosity, to rush to the scene of the trouble. Oftentimes people congregate in such great numbers as to seriously handicap and hamper in the work of combatting the flames and they never can be of any assistance. A notable illustration of this fact was seen on the evening of the fire in the boat house on Meadow street. Thousands of people gathered in the short and narrow street on that occasion and greatly embarrassed the fire fighters in the discharge of their duties. Another point is that where such big crowds collect at a fire it necessitates calling in many of the patrolmen from their different beats to assist in preserving order and keeping people back of the fire lines, and this leaves quite a section of the city without the proper police protection. Since the practice of ringing the bell has been stopped there have been two fires on the business portion of Genesee street, but there was no crowd of people to interfere with the firemen in either case, a fact which they greatly appreciated.

LEGAL NEWS

A Summary and Notes of Recent Decisions--Rulings of Municipal Interest

SUBMISSION OF CHARTER AMENDMENT

McKenna vs. City of Portland et al.—By the amendment to the Constitution, Article 11, Section 2, adopted in June, 1906, the legal voters of every city and town were granted power to enact and amend municipal charters. At the same election Article 4 was amended by inserting a new section, by which the initiative and referendum powers were further extended and were also reserved to the legal voters of every municipality as to local legislation, the manner of exercising such powers to be prescribed by general law, except that cities and towns might provide for the manner of exercising the initiative and referendum powers as to their municipal legislation. Laws of 1907 provided that the act should apply in every city and town in all matters concerning the operation of the initiative and referendum in its municipal legislation on which it did not make conflicting provisions. By the laws of 1907 it was provided that amendments to any city charter might be submitted to the people by the City Council with or without initiative petition. An amendment to the city charter of Portland was submitted by the Council without initiative petition under the law of 1907. Held that, in the absence of legislation by the city regulating manner of submitting amendments to the city charter conflicting with the provisions of the general law, the amendment was properly submitted by the Council, as the right of the voters of a city to enact or amend their city charter existed by virtue of Article 11, Section 2, as amended in 1906, and not by the initiative and referendum amendments, and, as such article vested in the voters the exclusive right to amend or enact a city charter, some law for the exercising of the power was necessary, and the law of 1907 adopted for that purpose was controlling in the absence of local legislation.—Supreme Court of Oregon.

DEFECTIVE SIDEWALK

Gueble vs. Town of Lafayette.—It is sufficient if the substance of the allegation be proved. Plaintiff was an aged man. His little grand-daughter, whom he was conducting on the sidewalk, was about to fall. He sought to prevent the fall. In the attempt he stepped into a hole in the sidewalk, which was in bad condition. In his fall on the sidewalk he received severe injury. There were planks missing in the sidewalk, boards broken and stringers not in place and pieces not nailed. Young men in passing had been tripped up, others had seen its bad condition. It was the sidewalk of one of the principal streets. The sidewalk in its defective condition was the cause of the fall. The defendant is liable in damages. As relates to the testimony there is some slight conflict. The trial judge who heard and saw the witnesses while they were testifying thought that the preponderance was with plaintiff.—Supreme Court of Louisiana.

DRUNKENNESS DEFINED

Brooke vs. City of Morrilton.—Evidence that defendant was drinking and showed some signs of its effect did not warrant a conviction of drunkenness, when he was attending to his business in an orderly manner and had not lost control of his faculties. The term "drunk" is properly defined as being under the influence of intoxicating liquor to such an extent as to have lost the normal control of one's bodily and mental faculties, and commonly to evince a disposition to violence, quarrelsomeness and bestiality.—Supreme Court of Arkansas.

MILK ORDINANCE—WHOLE MILK

City of St. Louis vs. Klausmeier.—Where a complaint charged the sale of milk, referred to as "whole milk," in violation of a designated section of an ordinance, while the evidence showed a sale of skimmed milk, which was governed by another section of the ordinance, the strength, purity and quality of each being wholly different, there was a fatal variance, and the prosecution cannot be sustained, though the sale was in violation of such other section.—Supreme Court of Missouri.

IMPROVEMENT BONDS—STATUTORY PROVISIONS

City of Cheyenne et al. vs. State ex rel. E. H. Rollins & Sons.—A statute authorizing the issuance by municipalities of bonds for public improvements should be construed so as not to defeat the manifest object of the enactment, and hence a substantial compliance with the formalities in submitting the question of a bond issue to the voters is generally sufficient.—Supreme Court of Wyoming.

CONTROL OF STREETS—ELECTRIC CONDUCTORS

New York, New Haven and Hartford Railroad Company vs. New London.—In view of the history of legislation fixing the general rule of policy that municipalities shall be bound to maintain public highways, and invested with the power of protecting the public safety in their use, appearing in its final form in the general statutes of 1902, and the legislation as to occupation of highways in aid of public uses, giving municipal authorities control of the placing and maintenance of electric lines and conductors, leading up to General Statute 1902, providing that the Common Council of any city shall have full direction and control over the placing, erection and maintenance of any wires, conductors, etc., of any company engaged in using any electric wire or conductor for any purpose, and may make all orders necessary for the exercise of such power and direction of control, and especially in view of the history of legislation on the subject of railways along the highways and the control by local authorities, appearing in General Statutes 1902, providing that the Mayor and Council of each city shall have exclusive control over the placing or locating of tracks, wires, conductors, etc., subject to the right of appeal to the Railway Commissioners, the placing of electric wires and conductors in a highway by a street railway company, for the purpose of applying electricity as the motive power for the operation of its railway, is subject to the direction of the local municipal authorities, which may direct that such wires and conductors shall be placed underground or overhead as they may deem proper for the safety of the public; and there is no exemption from such municipal control by force of Special Laws 1905, amending the charter of the New York, New Haven and Hartford Railroad Company and authorizing it to establish and maintain conductors over, on or under any street, highway or public grounds, subject to the general provisions of Sections 3904-3907, inclusive, of the General Statutes of 1902, relating to control by the local authorities, etc., and to transmit electricity thereby in such manner, etc., as said corporation shall find necessary for the best conduct of its business, for the power given the company is subject to all general laws, and especially to the laws mentioned in the amendment; and, in the absence of action by the Railroad Commissioners, the local authorities may exercise full direction and control given by the statute in respect to placing electric conductors in the highways by a street railway company, subject to the final action of the Railroad Commissioners.—Supreme Court of Errors of Connecticut.

POLICE—SPECIAL ASSIGNMENT—PROMOTION

Leonard vs. Fagen, City Clerk.—Under a law providing that a Police Board shall not increase the pay of the members of the Department beyond the pay authorized by law, and where such pay has been fixed by law, the detailing by such board of an officer to perform the duties of an office which carries with it a higher salary is not a "promotion," and such acting officer will not be entitled to an increase of salary.—Supreme Court of New Jersey.

NUISANCE—COMPLAINT

City of Ft. Scott vs. Dunkerton et al.—After a conviction upon a charge of maintaining a nuisance at a certain place on certain days, judgment will not be arrested because it was alleged in the complaint that the defendant kept a place where intoxicating liquors were and are sold, and where persons were and are permitted to resort for the purpose of drinking such liquors. The words "and are" may be treated as surplusage. In a charge of keeping and maintaining a nuisance, it is not necessary to include the negative averment that the place kept and maintained is not a dwelling house.—Supreme Court of Kansas.

PAYMENT OF CLAIM—OFFICIAL INTEREST

Walker et ux vs. City of Waterbury et al.—A committee of a city Board of Aldermen, whose function is to report to the board their conclusion as to the city's liability in claims, are not agents of the city for the purpose of making admissions. Where an order for the payment of a claim against a city was passed over the mayor's veto by a two-thirds vote, one of which was cast by an alderman, who was one of the claimants, and whose vote was necessary to pass it over the veto, the record was not admissible in evidence to prove the city's liability on the claim.—Supreme Court of Errors of Connecticut.

LIABILITY ON OFFICIAL BONDS

Commonwealth to Use of Rosenthal vs. Teel et al.—In an action on the bond of a marshal of a city for the wrongful acts of the marshal, the city is not a necessary party, though it refuses to join in an action for the benefit of the person injured by the wrongful acts.—Court of Appeals of Kentucky.

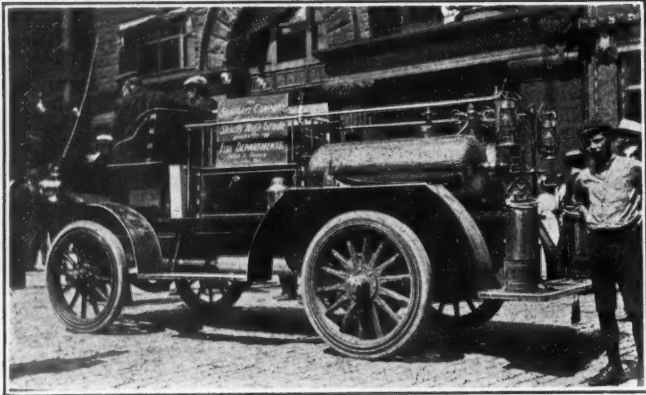
MUNICIPAL APPLIANCES

EXHIBITION OF FIRE APPARATUS

A most instructive exhibit of fire apparatus and tests of the same was made at the recent convention of the International Association of Fire Engineers at Columbus, O. The exhibits, arranged in the hall and annex, were as follows:

PETTY ELECTRICAL SIGNAL COMPANY, of Alexandria, Va., exhibited a signal device to be used for the purpose of preventing collisions between fire apparatus and street cars and other vehicles and a special signal for railway crossings.

SEAGRAVE COMPANY, of Columbus, O., had a very complete display of their apparatus, including Aerial Truck, Automobile Ladder Truck, Automobile Chemical Engine, etc.



SEAGRAVE AUTO COMBINATION WAGON

DUPLEX METAL COMPANY, of New York, had an interesting exhibit of their new copper clad Wire.

COLUMBUS BUGGY COMPANY, Columbus, O., were kept busy talking about their Wagon for Fire Chiefs and handing out literature.

SWINEHART TIRE AND RUBBER COMPANY, of Akron, O., was very ably represented by Mr. B. Swinehart, who made many new friends among the delegates.

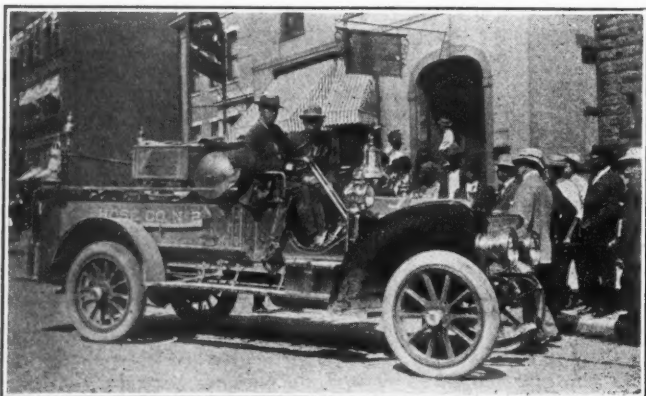
GLAZIER NOZZLE COMPANY, of Indianapolis, had a full line of their famous Universal Nozzles on exhibition; also their Aerial Ladder Nozzle, which created much favorable comment.

SHELDON AXLE COMPANY, of Wilkes-Barre, Pa., was represented by Mr. D. F. Carmody, who was a very busy man most of the time, placing the Empire Ball Bearing Axle very much in evidence. The company gave unique souvenirs in the form of pendants made from coal, containing in the center pieces of the crystallized sulphur which is found between layers of coal occasionally.

GAMEWELL FIRE ALARM COMPANY, of New York, made a very attractive showing with their line of Fire Alarm System. Mr. Frank C. Stover, of Chicago, the general western agent of the company, was in charge of the display.

NIAGARA HOSE WASHER COMPANY, of Lockport, N. Y., was kept busy showing how simple it is to keep hose clean when you have the proper apparatus for washing it.

WEBB MOTOR FIRE APPLIANCE COMPANY, of Vincennes, Ind., created more excitement than usually falls to the lot of an exhibitor at conventions, a feature of their exhibit being a fully equipped motor Hose and Chemical Wagon that came all the way from the factory at Vincennes to the convention, ready for business every minute, and arrived in perfect condition.



WEBB AUTO HOSE AND CHEMICAL WAGON

Just after Arrival at Columbus, O., from Vincennes, Ind.

WESTINGHOUSE COMPANY, of Schenectady, N. Y., had one of its Gasoline Fire Engines on exhibition, which was the object of much favorable comment.

CORY-PATTERSON MANUFACTURING COMPANY, of Greenfield, O., exhibited the Browder Life Saving Net, which has been adopted by authorities at Washington, D. C., every truck in which city carries a net.

C. C. C. FIRE HOSE COMPANY, of 32 Warren street, New York, showed to good advantage their line of Fire Hose.

BARTON MANUFACTURING COMPANY, of Racine, Wis., made a very attractive showing with their Fire Department Snaps and other devices for use in connection with fire fighting service.

GLOBE MANUFACTURING COMPANY, of Pittsfield, N. H., had on exhibition a complete line of Firemen's Uniforms and general clothing for Fire Departments.

NOTT FIRE ENGINE COMPANY, of Minneapolis, Minn., was very well represented by Col. Wilkenson, who explained to every one the New Universal Fire Engine exhibited by his company.

NEW DEPARTURE MANUFACTURING COMPANY, of Bristol, R. I., was on hand with its celebrated line of Fire Bells, including a Chief's Buggy Bell.

WOODHOUSE MANUFACTURING COMPANY, 50 West Broadway, New York, had on exhibition "The Paradox" high-pressure Nozzle Holder, which is being adopted by many of the Fire Departments everywhere. D. A. Woodhouse was in charge.

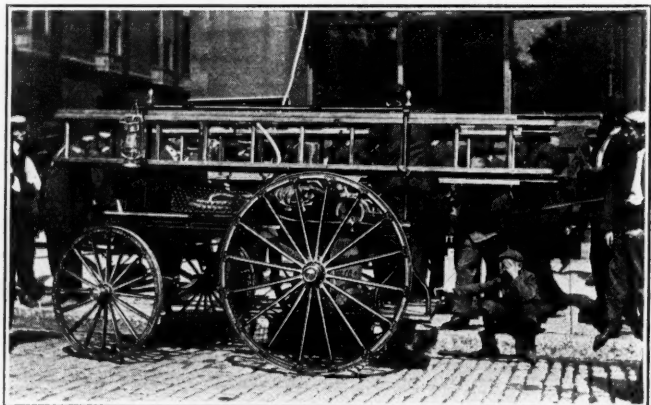
J. J. FINNERTY, 59 Ann street, New York, showed to very good advantage his line of high-pressure Nozzles and Automatic Expander.

BOLTZ AND MEYER COMPANY, of Chicago, Ill., had one of their Searchlights for fire service very well displayed.

M. C. LILLY AND COMPANY displayed a very complete line of Firemen's Uniforms and Equipment.

FIRESTONE TIRE AND RUBBER COMPANY, of Akron, O., had their display near the entrance, so that one of the first things to greet the eye was the Firestone Solid Tires for Fire Department work. The exhibit was very tasty.

KANAWHA CHEMICAL COMPANY, of Charleston, W. V., interested every one at the convention in their new Compressed Air Chemical Engine, and it kept the demonstrator busy showing the practical side of it. The interests of this company were



KANAWHA HAND-DRAWN CHEMICAL WAGON

very ably cared for by P. A. Young, A. B. Offenbacher, Chicago representative, D. W. Crawford and C. A. Fluke, superintendent of construction.

A. P. SMITH COMPANY, of Newark, N. J., was busy demonstrating the efficiency of its Machine for Tapping Pipe in case of emergency. They also showed their high-pressure Fire Hydrant and other devices.

GOODYEAR TIRE AND RUBBER COMPANY, of Akron, O., had on exhibition their Solid Tires for Fire Department work.

A. B. WILLOUGHBY, of Philadelphia, Pa., was able to convince the most critical engineer that his Improved Shaking Grate was very essential for up-to-date apparatus.

SEIBEN CHEMICAL-SPRAYING NOZZLE COMPANY, of Kansas City, Mo., was represented by Henry Seiben, who was very earnest in his effort that no delegate should fail to become familiar with a new device his company is putting on the market for shutting off the supply of gas in burning buildings. It can be operated from any point inside or outside a building, and is positive in its operation.

LARKIN MANUFACTURING COMPANY, of Dayton, O., displayed a full line of Fire Department Supplies.

LUITWIELER PUMPING ENGINE COMPANY, of Los Angeles, Cal., was represented by Mr. A. Luitwieler, who has just perfected a new Self-Contained Pump and Engine for fire fighting purposes. It is rigged on an automobile truck and is a complete fire fighting machine.

COMBINATION LADDER COMPANY, of Providence, R. I., was well looked after by Wm. H. Lewis. The showing made by this com-

pany created a very favorable impression, and the display was an excellent one.

DIAMOND RUBBER COMPANY, of Akron, O., was there with a full line of Fire Hose and Rubber Tires for fire apparatus. This company has just received an order from the Fire Department of New York for 47,500 feet of high-pressure hose and 26,000 pounds of solid rubber tires. Mr. O. J. Woodard, manager of the Solid Tire Department, had charge of the exhibit.

S. F. BOWSER & COMPANY, of Ft. Wayne, Ind., had a very interesting exhibit of gasoline Storage Tanks for storing gasoline or naphtha under ground. They are also used for fireproof storage of all sorts of explosive fluids.

AMERICAN-LA FRANCE FIRE ENGINE COMPANY, of Elmira, N. Y., had the largest exhibit at the convention. The display included an American Automatic Aerial Truck, Metropolitan Fire Engine, Mine Chemical Engine, Combination Chemical and Hose Wagon, as well as hand chemical fire apparatus. The company was splendidly represented by Clifford J. Cross, Gen. Sales Mgr., and Gen. Sup't E. D. N. Sands.



AMERICAN-LA FRANCE AERIAL TRUCK

TEA TRAY COMPANY, of Newark, N. J., exhibited a head for chemical tanks so arranged that vitriol jars may be dumped quickly regardless of corrosion.

HAYWARD COMPANY showed an ideal friction hub brake to be used on all kinds of fire apparatus, which is claimed to be the only friction brake made with a shoe feature.

NEW YORK COUPLING AND SUPPLY COMPANY, of New York City, showed a full line of pipes, siamese and cellar pipe expanders, including power, hand and chemical expanders from $\frac{3}{4}$ inch to 7 inches.

PREST-O-LITE COMPANY, of Indianapolis, Ind., manufacturers of portable acetylene gas tanks, was represented.

JOHN E. BAKER MOSS COMPANY, of Garrett, Ind., showed samples of peat moss for stable bedding.

The Committee on Exhibits stated that at no convention which the association has previously held had the exhibits been so extensive and numerous and beneficial to every member of the association. Eighteen tests of apparatus were made, as detailed below, and most of these were described briefly by the committee as being "satisfactory," the only exception being the sprinkler heads supplied by C. A. Schmidt, of which they stated that "owing to the lightness of the sprinkler head and the high pressure from two engines, the test was not as satisfactory as might be expected. The number of sprinkler heads and standpipes in line were subject to greater pressure than required."

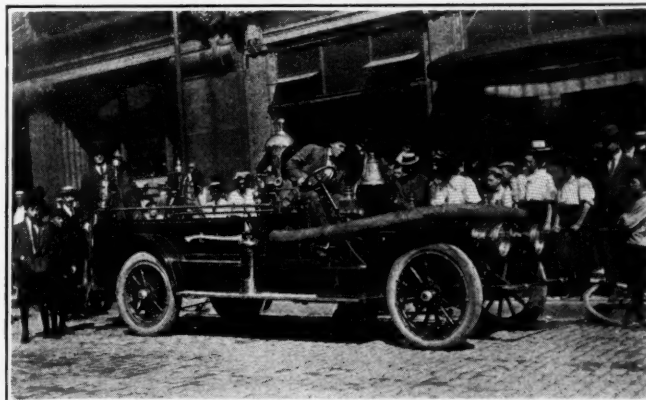
EXHIBITION TESTS

The first two tests consisted of a 2.7-mile run, which was taken by the Seagrave aerial motor truck, which made the run and



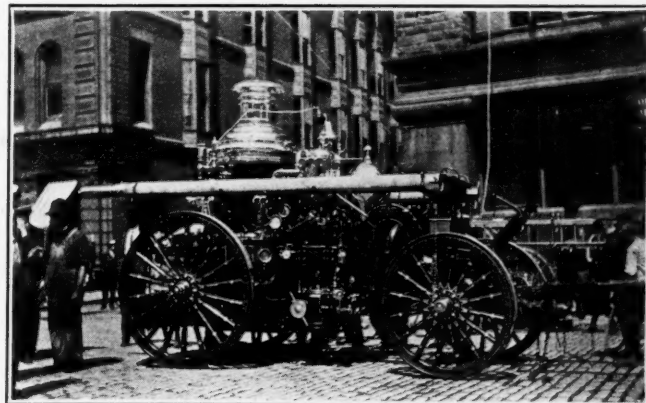
SEAGRAVE AUTO TRUCK

raised 75 feet of extension ladder in 7 minutes and 41 seconds. This was followed by a Seagrave chemical engine, which arrived ahead of the motor truck. A Webb combination engine and hose wagon made the distance in 3 minutes and 41 seconds and water was thrown in 4 minutes and 56 seconds. In the pumping test two lines of 100 feet each were siamesed into a 3-inch line on which was a $1\frac{3}{8}$ -inch nozzle; with a 150-pound water pressure on the gauge there was 80 pounds at the nozzle.



WEBB AUTO ENGINE

In the third test an American-La France first size Metropolitan engine pumped through four 200-foot lines siamesed into a 6-inch line with $1\frac{3}{4}$ -inch nozzle and gave 110 pounds pressure at the nozzle. With four 200-foot lines and a 1-inch nozzle the pressure was 108 pounds. With two 200-foot lines and two $1\frac{1}{4}$ shut-off nozzles, when the nozzle was shut off a pump governor throttled the engine, and if but one nozzle was shut off the engine was throttled sufficient for one stream. In testing an aerial truck of the same company a 75-foot ladder was raised in 32 seconds, starting with the men on the ground and tillerman in his seat, or $5\frac{1}{4}$ seconds with men on truck ready for test.



AMERICAN-LA FRANCE ENGINE, METROPOLITAN TYPE

A Nott fire engine, second size, with two 50-foot lines and a $1\frac{3}{4}$ -inch smooth-bore Eastman deluge nozzle gave 67 pounds pressure at the nozzle with 120 pounds at the engine. An Automatic Tiller Steering device, an Eastern Coupling Company's quick coupling and spray nozzle, a Woodhouse nozzle holder and an A. D. Cole nozzle holder were tested, as were also an Eastman Ladder Pipe on a Columbus aerial truck, a Niagara Hose Washer and an Egan Coupling. A Westinghouse Gas Engine was tested and gave an engine pressure of 96 pounds with two 200-foot lines siamesed into a $3\frac{1}{2}$ -inch line with $1\frac{1}{2}$ -inch nozzle; 88 pounds with two 50-foot lines having 1 3-16-inch nozzles; these being from the hydrant. Testing from a cistern, engine pressures of 110 pounds to 112 pounds were obtained. A Kana-wha Chemical Engine, when feeding through 150 feet of chemical hose to a 3-16-inch tip on the roof of the Board of Trade Building, showed 73 pounds pressure at the nozzle.

The New York Coupling and Supply Company exhibited a high pressure nozzle which produces no back pressure, adapted for use on ladder streams. The Baker Wagon Pipe and Baker Ground Deluge nozzle and the M. H. Hart Wagon Pipe were given an exhibition test. An O'Neil Basement Pipe was exhibited from the top of an aerial truck and reversed satisfactorily in any direction. C. A. Schmidt gave an exhibition of automatic dry or wet system for cellar fires. A pressure house was built for the test and fire started from well oiled kindling; the inside sprinkler went off in 20 seconds. Four outside sprinklers were broken by the pressure.

NEWS OF THE SOCIETIES

League of Third-Class Cities of Pennsylvania.—The equalization of tax assessments, the disposition of sewage in conformity with the requirements of the State Department of Health, and the necessity of securing stringent laws governing plumbing were the main topics discussed at the ninth convention of the League at Altoona, August 25. The convention was convened in the Orpheum Theatre at 10 o'clock, Mayor S. H. Walker, of Altoona, presiding. After the opening formalities the body launched into a discussion of the sewage and plumbing questions.

City Clerk Charles A. Miller, of Harrisburg, advanced the plumbing matter by offering for consideration an amendment to an act passed by the State Legislature in 1901, providing for the examination, licensure and registration of persons, firms or corporations engaged or engaging in the business or work of plumbing or house drainage, etc., by extending its provisions to embrace cities of the third class. City Solicitor William L. Loeser, of Harrisburg, dwelt at length on the necessity of plumbing regulations in his address, "Harrisburg and the Public Health." "Inequality in Tax Assessments" was brought up by W. D. Gilmore, of Williamsport, and was generally discussed. The remedy advocated by several speakers was the election of a Board of Assessors, who shall be constantly employed at remunerative wages. They ought to have a clerk and the records ought to be preserved. Mr. Gilmore cited the case of Williamsport, where agitation led to a revision of the assessment system, with the result that the valuation upon which taxes are collected was increased in one year from \$9,000,000 to \$14,000,000. The discussions developed three important considerations—that cities are seriously handicapped by the inequalities that obtain in the present methods of assessing property, that the absence of plumbing laws constitutes probably a greater menace to health than any other condition with which third-class cities have to contend, and that if the State Department of Health adheres to its original purpose of compelling smaller cities to dispose of their sewage with a specified time many of the communities affected will be bankrupt. Mr. Gilmore, of Williamsport, presented a proposition that the Legislature be asked to relieve these communities. Inasmuch as the regulations are made for the benefit of all the people of Pennsylvania, the cost of sewage disposal should be in part met from the general fund. A motion prevailed that a committee be appointed to confer with the State Department of Health and obtain all data necessary to make a plain presentation to the next General Assembly.

In the evening the visitors were entertained at a reception and smoker at the home of Altoona Lodge of Elks and prior to the reception listened to an address by J. A. Gardner, of New Castle, on "Some Acts Governing Third-Class Cities Which Should Be Revised." Mr. Gardner pointed specifically to the need of relief for cities of large population. The impracticability of bulking cities with a population of upwards of a hundred thousand with those of between ten and twenty, was, he declared, self-evident.

On the second day the first address was made by Paul Kreuzpointner, of Altoona, Pa., whose subject was "Municipal Housekeeping." J. Horace McFarland, of Harrisburg, President of the

American Civic Association, followed with an address on "The City vs. the Bill Boards." Mr. McFarland began with outlining the work of the association of which he is the head, and then called attention to many places throughout the country where beautiful parks and fine public buildings are disfigured by advertising signs. He said: "We have adequate laws regulating the posting of signs in public places, but they are absolutely unenforced. Most European countries rigidly restrain the signs and most South American cities restrict them and collect as much as \$50,000 revenue from those permitted." Mr. McFarland then spoke of the progress American cities are making against the billboards. Twenty-nine cities have begun the crusade and the courts have in several instances declared the laws restricting them constitutional. An honest enforcement of the law in this State would remove at least 100,000. Fullerton L. Waldo, Secretary of the Civil Service Association, spoke on the subject of "The Civil Service of Pennsylvania." He began by saying that civil service reform is purely a matter of business, a case of getting the men to do the work for which they are paid, and then reviewed the laws already on the statute books, which apply only to the cities of the first and second classes. It would be too expensive to have a commission for each city, and Mr. Waldo advocated a central commission appointed by the Governor who could go from one city to another and hold examinations.

In the afternoon the delegates, city officials and many citizens left the station on a special train on a sight-seeing tour, embracing the water and sewage disposal plants, the Horseshoe and Muleshoe curves and the Portage railroad. There were about 150 persons in the party. In the evening there was a trolley ride to Lakemont Park and an inspection of the amusements, following which the delegates were entertained at "Kazmaier Villa," the guests of John Kazmaier.

At Thursday morning's session the question, "Should There Be a New Classification of Cities in Pennsylvania?" was treated by F. P. Schoonmaker, Bradford; discussion; "Should the Constitutional Restriction of Municipal Indebtedness Be Enlarged to Ten Per Centum of Valuation?" A. A. Cochran, Chester; discussion; executive experiences by the Mayors; "The State Department of Health," Dr. Samuel G. Dixon, State Commissioner of Health; discussion. At the afternoon session "The Mutual Relations of Cities and Industries" was discussed by C. A. Preston, Superintendent Middle Division, Pennsylvania Railroad Company. A city trolley ride, visit to railroad shops and other points of interest, and a banquet followed.

The constitution of the league was changed to include members of the Board of Public Works and Clerks of Council among the official members of the league. A new article provides for a permanent law committee consisting of all City Solicitors of the several cities represented in the league. A. J. Gardner, Esq., of New Castle, was made Chairman of the committee. Resolutions were adopted demanding a plumbers' regulating act, equalization of taxation and the extension of civil service to third-class cities.

New Castle was selected as the place of next meeting and the following officers were elected: President, Harry L. Lusk, of New Castle; Vice-President, W. C. Gilmore, of Williamsport; Treasurer, J. Craig, Jr., of Chester; Secretary, E. C. Charlton, of Bradford; Trustees, J. E. Weaver,

Mayor of York; T. C. Hare, City Solicitor of Altoona; F. C. Mullaley, City Controller of Oil City. A long list of honorary Vice-Presidents were named, including City Clerk Charles A. Miller, of Harrisburg.

Associated Boards of Health of Bergen County, N. J.—Following a call by the Board of Health of Hackensack, issued to all Health Boards of Bergen County, a preliminary meeting was held in May and a permanent organization was formed on July 6, when the following officers were elected: President, J. T. Hanks, Ridgewood; First Vice-President, Charles Calhoun, M. D., Rutherford; Second Vice-President, H. C. Neer, M. D., Park Ridge; Third Vice-President, F. S. Hallet, M. D., Hackensack; Secretary, Max Wyler, M. D., Fort Lee; Treasurer, C. B. Hearn, Cliffside Park. The active members of Boards of Health are eligible to membership, as are also the Health Officers of the different Boards. Meetings will be held quarterly, or oftener if thought necessary, when the President will call the members together. The objects as stated in the By-Laws, are to be: "The investigation and publication of all matters pertaining to public health and sanitation, the interchange of ideas, discussion of experiences, and the promotion of all enterprises that will maintain a high sanitary standard of our county." This work which will principally engage the attention of the association will be done by the following committees, the name of each indicating the field of activity:

Sanitation, Drainage and Mosquito Extirpation; Contagious Diseases and Disinfection; Isolation Hospitals; School Inspection; Milk Supply, Pure Food and Drugs; Ordinances and Legislation; Vital Statistics, Systems and Records; Tenement and Factory Inspection. The next regular meeting will be held September 15, in Hackensack, when C. H. Wells, Health Officer of Montclair, will address the association.

American Public Health Association.—At the meeting at Winnipeg the association elected Dr. Fardner T. Swarts, of Providence, R. I., President; R. M. Simpson, of Winnipeg, First Vice-President; Dr. Jesse Chico, of Mexico, Second Vice-President; Third Vice-President, Major Charles F. Mason, U.S.A.; Secretary, Dr. Charles O. Probst, Columbus, O.; Treasurer, Dr. Frank W. Wright, New Haven, Conn.

The most important resolution passed by the association recommends to the American Congress the purpose of such legislation as will extend to enlarge the scope and increase the efficiency of the Public Health and Marine Hospital Service. The decision announced by the committee to meet in Milwaukee next year was rescinded in favor of Richmond, Va.

New England Water Works Association.—The Traymore Hotel, Atlantic City, N. J., has been selected as headquarters for the convention to be held on September 23, 24 and 25. The rates per day during the week beginning September 20, and as long thereafter as members care to remain, will be on the American plan. This announcement has been sent out by Kenneth Allen, Fred Whitcomb and Lincoln Van Gilder, the Subcommittee on Hotels and Transportation.

Illinois Mayors' Association.—The third annual convention will be held at La Salle, Ill., September 24, and the principal topic of consideration is to be "The Government of Cities and Villages," with the deep water way project a main feature. This was determined upon at a meeting of the Executive Committee at Chicago.

International Association of Fire Engineers.—The report of the convention of this association in last week's issue was limited by the space available and is concluded in this issue. The description of the exhibits and the official report thereon are given on another page. The report of the Secretary, James McFall, for the year ending August 23, 1908, shows the collections to have amounted to \$1,660 for dues and \$450 for advertisements; this, with \$66.27 in the treasury at the last report, makes a total of \$2,176.27. The Secretary has drawn upon the Treasurer for the sum of \$2,134.24 leaving a balance in the treasury of \$42.03.

At date the number of active members was 365; of associate members, 79; of life members, 34; State associations, 6; a total of 484. During the year the following members have died: Hugh Bonner, New York City; Charles Gott, Arlington, Mass.; John H. Clay, West Coshocton, Pa.; David W. Sharp, Elgin, Ill.; Bernard Bosch, Titusville, Pa.; L. Clark, London, Ont., and C. H. Campbell, Ocala, Fla. The work of the office during the past year has been devoted to circularizing the Chiefs of Departments, Mayors, Fire Commissioners and other officials of cities not members of the association, endeavoring to interest them in the Columbus meeting. Of the expenses \$800 was for the Secretary's salary, \$169 to reimburse directors for expenses in attending the meeting, \$469.85 for printing annual minutes, \$121 for reporting the previous convention, \$108.50 for other printing, \$100 for Treasurer's salary, \$251.10 for postage and the remainder for miscellaneous expenses.

Connecticut Valley Veteran Firemen's League.—South Hadley Falls captured first honors in the playoff at Springfield, Mass., and Pittsfield was the lion of the parade, being chosen by the judges both for the number of men in line and the appearance of the company. The Springfield association captured third money in the playoff. Charles E. Willard was Chief Marshal of the parade, which was participated in by 2,000 men. Each engine was allowed 15 minutes to make connection and play. A shot announced the beginning of the period and another its end. The engine might play as many times as it pleased during the time allotted. The following were the scores made:

Place and Engine.	Ft.	In.
South Hadley Falls, F. M. Smith..	229	8½
Holyoke, E. A. Whiting.....	225	11
Springfield, City of Homes.....	219	1¾
Indian Orchard, Monitor	214	9½
Westfield, E. R. Lay.....	211	4
Northampton, Deluge	207	9½
Chicopee, Chicopee	205	¾
Chicopee Falls, Gen. MacArthur..	197	5½
Palmer, Maj. Morgan.....	195	11
Pittsfield, Neptune	122	¾

New England Association of Chiefs of Police.—The sixth annual convention, at Providence, R. I., August 20, did not turn out a very large number, and this fact caused the passage of an amendment to the by-laws, fixing the next meeting date on the last Thursday in June. It will be called at Worcester, Mass. Vacations and other business at this time of the year interfere with attendance at the convention, and it is believed that the change will result in bringing out larger numbers at the annual business session. Another amendment was adopted making the convention a one-day affair rather than two days, as it has been heretofore. Following the final meeting the members went to Field's Point for a clambake. The meeting was held in the former District Court at Police Headquarters. It was presided over by President Stephen C.

Wheeler, Chief of Police of Winsted, Conn., while the minutes were read and reports submitted by the Secretary-Treasurer, Frederic M. Mitchell, Chief of Police of Newton, Mass. The election of officers resulted as follows: President, Stephen C. Wheeler, Chief of Police of Winsted, Conn.; First Vice-President, John C. Bowen, Marshal of Bangor, Me.; Second Vice-President, A. H. Noyes, Chief of Police of St. Johnsbury, Vt.; Third Vice-President, James H. Crowley, Chief of Police of Newport; Fourth Vice-President, Thomas Entwistle, Marshal of Portsmouth, N. H.; Secretary-Treasurer, Frederic M. Mitchell, Chief of Police of Newton, Mass.

National Association of City Controllers and Accountants.—Partial details of the program for the annual convention have been received by City Controller Sam Wilhite, of Louisville, Ky., from Howard C. Beck, of Detroit, National Secretary, as the convention will be held in Louisville beginning September 22 and continuing through three days. Though small in numbers this association is one of the most important in the United States, composed as it is of the accounting officers of the principal cities of the country. It is expected that upwards of 100 of these men will go to Louisville accompanied by their wives or other members of their families. They will discuss the intricate problems of city bookkeeping and accounting and exchange ideas for the simplification of the work in order to show taxpayers just what becomes of their money. In his letter to Controller Wilhite, Mr. Beck says that he has received promises to present essays and papers from State Controller Glynn, of New York; Controller Kennedy, of New Orleans; Auditor General George Cabot Ward, of San Juan, Porto Rico; City Auditor Carey, of Sacramento, Cal.; Controller Goldsmith, of Atlanta, Ga.; Auditor Thomas, of Roanoke, Va.; Controller Von Bergen, of Cincinnati, O., and Controller Frank E. Doremus, of Detroit. The first two days of the meeting are to be devoted to formal papers and addresses, and the third day will be given over to the informal discussions and the election of officers. Mayor James F. Grinstead will make the address of welcome. At the close of the convention the delegates will be taken to Mammoth Cave, an appropriation of \$325 having been made for this purpose by the General Council. The other features of entertainment have not yet been perfected, but nothing will be spared that can contribute to the comfort and pleasure of the visitors.

League of Iowa Municipalities.—At the meeting of the League to be held at Ottumwa the subject of taxation of railroad terminals will be one of the important subjects. Addresses on that topic will be made by Senator C. G. Saunders, Council Bluffs, and Clem F. Kimball, City Solicitor, Council Bluffs. Mr. Kimball, as chairman of the committee on legislation, has written to members of the committee, to State officers and others for suggestions regarding legislation on terminal taxation. The power of a Mayor under the municipality laws enacted by the Thirty-second General Assembly will form one of the leading subjects of discussion. Interest in the matters of the mayor's powers has been brought to a focus by an incident in Centerville, where the mayor, after trouble with some of the members of the council over a street commissioner, summarily removed two of the belligerent members from the committee on streets and alleys and the

committee on finance. City Solicitor Clem F. Kimball, who was one of the promoters for the municipality law, says that there is no question as to the power of the Mayor to change committees when he desires to do so, though this power is not often exercised.

Calendar of Meetings

- September 8-12.**
Playground Association of America.—Second annual congress, New York City.—Dr. Luther Halsey Gulick, President, 624 Madison avenue, New York City.
- September 15.**
Associated Boards of Health of Bergen County, N. J.—Regular meeting, Hackensack.—Max Wyler, M.D., Secretary, Fort Lee.
- September 15-17.**
Central Water Works Association.—Twelfth Annual Convention, Monongahela House, Pittsburg, Pa.—Wm. Allen Veach, Secretary, Newark, O.
- September 16-18.**
League of Iowa Municipalities.—Eleventh annual convention, Ottumwa, Ia.—Frank G. Pierce, Marshalltown, Secretary-Treasurer.
- September 21-October 12.**
National Association for the Study and Prevention of Tuberculosis.—International Congress, Washington, D. C.—Dr. Henry Barton Jacobs, Secretary, Baltimore, Md.—Dr. Joseph Walsh, Philadelphia, Pa. Special Secretary of the Committee on the International Congress.
- September 22-24.**
National Association of Comptrollers and Accounting Officers.—Third annual convention, Seelbach Hotel, Louisville, Ky.—Howard C. Beck, Secretary, 61 McGraw Building, Detroit, Mich.
- September 23-25.**
New England Water Works Association.—Annual convention, Atlantic City, N. J.—Willard Kent, Secretary, Narragansett Pier, R. I.
- September 24.**
Illinois Mayors' Association.—Third annual convention, La Salle.
- September 28-October 1.**
Pacific Coast Association of Fire Chiefs.—Annual convention, Victoria, B. C.—William Metz, Chief Fire Department, Walla Walla, Wash., President.
- September 30-October 2.**
League of American Municipalities.—Twelfth annual convention, Omaha, Neb.—John MacVicar, Secretary, Des Moines, Ia.
- September 29-30.**
American Public Works Association.—Annual meeting, Asheville, N. C.
- September 10-12.**
New Jersey State Firemen's Association.—Annual meeting, Atlantic City, N. J.—William Exall, Secretary, 11 Howard street, Newark, N. J.
- October 5-6.**
Illuminating Engineering Society.—Second Annual Session, Hotel Walton, Philadelphia, Pa.
- October 7.**
Empire State Gas and Electric Association.—Annual meeting United Engineering Societies Building, 29 West 39th Street.—Charles H. B. Chapin, 154 Nassau street, New York City, Secretary.
- October 8-10.**
Kansas Gas, Water and Electric Light Association.—Annual meeting, Pittsburg, Kan.—J. D. Nicholson, Newton, Kan., Secretary.
- October 11.**
International Roads Congress.—First convention, Paris, France.—President Lethier, l'Inspecteur General des Ponts et Chaussees.
- October 12-17.**
American Street and Interurban Railway Association.—Twenty-seventh annual meeting, Atlantic City, N. J.
- October 20-23.**
American Society of Municipal Improvements.—Fifteenth annual convention, Hotel Dennis, Atlantic City, N. J.—A. Prescott Folwell, Secretary, 239 West Thirty-ninth street, New York City.
- National Municipal League.**—Annual meeting, Pittsburg, Pa.—Clinton Rogers Woodruff, Secretary, 705 North American Building, Philadelphia, Pa.
- November 17-20.**
American Civic Association.—Annual Meeting, Pittsburg, Pa.—Clinton Rogers Woodruff, Secretary, 705 North American Building, Philadelphia, Pa.

THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Street Improvements				
Indiana	Lafayette	Sept. 10, 10 A.M.	Constructing gravel roads.	John P. Foreman, County Auditor.
Ohio	Cambridge	Sept. 10, noon	Furn. brick, also paving, etc., 28,296 sq. yds. curb, etc.	O. M. Hoge, City Engineer.
New York	New York	Sept. 10, 3 P.M.	Bldg. hexagonal asphalt block walks.	Henry Smith, Pres. Park Bd.
Pennsylvania	Wilkinsburg	Sept. 10, 3 P.M.	Hillside block paving, grading, curb, etc., La Belle Ave.	Frease & Sperling, Boro. Engrs.
Pennsylvania	Scottsville	Sept. 10, 8 P.M.	Brick or block paving, 3,800 sq. yds.; 2,200 lin. ft. sandstone curb; 1,500 cu. yds. excavation, Spring St.	Wm. Ferguson, Burgess.
Indiana	Fort Wayne	Sept. 10	Constructing 4-ft. cement walks, 2 streets; 5 ft. on 1st St.	H. W. Becker, Clk. Bd. Pub. Wks.
Alabama	Anniston	Sept. 10	Bitu. paving, 15,750 sq. yds.; cement walk, 10,000 sq. yds.; \$40,000.	J. D. Hunter, City Engineer.
Michigan	Hancock	Sept. 10	Constructing sidewalks in West Hancock, to cost \$6,050.	City Clerk.
Iowa	Cedar Rapids	Sept. 10	Brick paving on concrete, cement curb, several streets.	L. J. Storey, City Clerk.
Indiana	Lafayette	Sept. 11, 10 A.M.	Constructing gravel road in Fairfield township.	J. P. Foreman, County Auditor.
Ohio	Cincinnati	Sept. 11, noon	Constructing gravel road.	Stanley Struble, Pres. Bd. Co. Com.
Indiana	Vincennes	Sept. 11, 2 P.M.	Paving sidewalks with artificial stone, 2 jobs.	C. L. V. Tucker, Clk. Bd. Pub. Wks.
Illinois	Waukegan	Sept. 11, 8 P.M.	Paving 1 mile of Marion St. with brick.	W. S. Bullock, Pres. Bd. Local Imps.
Utah	Logan City	Sept. 11	Paving in Paving Dist. No. 15.	Wm. Wooley, Chm. Paving Com.
California	San Francisco	Sept. 11	Asphalt paving on concrete, Montgomery St.; \$46,475.	Secretary Bd. Pub. Wks.
New York	Rensselaer	Sept. 11	Paving and grading 8 streets.	J. G. Salt, City Clerk.
Utah	Salt Lake	Sept. 11	Constructing cement sidewalks on several streets.	L. C. Kelsey, City Engineer.
Wisconsin	Racine	Sept. 12, 10 A.M.	Grading sundry streets.	P. H. Connolly, Chm. Bd. Pub. Wks.
Ohio	Cleveland	Sept. 12, 11 A.M.	Grading, draining and improving portion of River road.	A. B. Lea, County Surveyor.
Ohio	Canfield	Sept. 12, noon	Constructing sidewalks.	J. R. Taber, Village Clerk.
Pennsylvania	Harrisburg	Sept. 12, noon	Grading 17th St. from Paxton St. to P. & R. Ry. Co.	W. W. Caldwell, Hwy. Com'r.
Ohio	Columbus	Sept. 12	Grading and improving river road.	Wm. F. Black, County Clerk.
Indiana	New Albany	Sept. 12	Brick paving, grading, etc., 2 streets.	John C. Short, City Clerk.
New York	New York	Sept. 14, 2 P.M.	Maintaining 6,880 sq. yds. asphalt paving; 250 sq. yds. stone.	John F. Ahearn, Boro. Pres.
Wisconsin	La Crosse	Sept. 14, 2 P.M.	Macadam 7,395 sq. yds.; cement curb and gutter, 4,796 ft.; grading 2,473 cu. yds.	H. J. Beckwith, Chm. Bd. Pub. Wks.
Indiana	Frankfort	Sept. 14, 2 P.M.	Constructing 29 gravel roads.	Chas. F. Cromwell, County Auditor.
New Jersey	Edgewater	Sept. 14, 8 P.M.	Grading, macadamizing, etc., 12,867 ft. road.	Geo. A. Carleton, Mayor.
New York	Waterford	Sept. 14	Brick paving; 5,000 sq. yds. on 9-in. concrete; 4,200 yds. on 6-in.; 4,300 lin. ft. 6 x 12-in. granite curbing, etc.	John Flynn, Jr., 83 3rd St., Troy.
Alabama	Decatur	Sept. 14	Constructing system of macadam roads, cost about \$240,000.	W. E. Skeggs, Judge of Probate.
Pennsylvania	Wilkes-Barre	Sept. 15, 2 P.M.	Curb and sidewalks on Co. Court House grounds.	James M. Norris, Co. Controller.
Missouri	St. Louis	Sept. 15, noon	Paving, 6½ miles; 7 streets, asphalt; 3, brick; 2, telford; 1, bitulithic; 1, granite; cost, \$315,000.	A. J. O'Reilly, Pres. Bd. Pub. Imp.
New Hampshire	Concord	Sept. 15, 5 P.M.	Grading and surfacing with gravel, 2 State roads.	A. W. Dean, State Engineer.
Milford	Milford	Sept. 15	Bldg. 7,700 ft. Lehman twp.; 18,675 ft. Green twp., Pike Co.	State Hwy. Dept., Harrisburg.
New York	Brooklyn	Sept. 16, 11 A.M.	Grading, granite repaving, etc., various streets.	Bird S. Coler, Boro. Pres.
Maryland	Baltimore	Sept. 16	Bldg. 5,500 ft. new road, 1,800 ft. another, Caroline County.	J. C. Bowerman, Sec'y St. Rds. Com.
Ohio	Youngstown	Sept. 16	Grading and macadamizing 2.03 miles Portland twp.; cost, \$19,981.	County Commissioners.
Wisconsin	Tomah	Sept. 17, 2 P.M.	Constructing brick pavement.	D. J. Aller, City Clerk.
New Jersey	Newark	Sept. 17, 3:30 P.M.	Furn. material and repaving Market St., 22,500 sq. yds. wood block on concrete; 7,000 ft. granite curb, etc.	M. R. Sherrerd, St. and Water Bd.
New York	New York	Sept. 17	Paving and repaving rock asphalt mastic, walks, Central Park.	Henry Smith, Pres. Park Board.
Ohio	Upper Sandusky	Sept. 18, noon	Grading and stoning 2 roads.	J. N. Traxler, Co. Auditor.
Indiana	Huntington	Sept. 18, 2 P.M.	Constructing gravel road, 15,432 ft. long, 22 ft. wide.	John W. Weaver, County Auditor.
Indiana	Bluffton	Sept. 18, 7:30 P.M.	Improving Indiana street.	Frank S. Smith, City Council.
Ohio	Cleveland	Sept. 19, 11 A.M.	Grading and draining Canal Road in Newberg Hts.	A. B. Lea, County Surveyor.
Wisconsin	Tomah	Sept. 19, 2 P.M.	Furn. material and brick paving and appurtenances.	R. E. Kyle, Chm. Com. Pub. Wks.
Ohio	Tiffin	Sept. 19	Brick asphalt paving, etc., N. Sandusky St.	City Auditor.
Utah	Canfield	Sept. 21, noon	Laying sidewalks.	J. R. Taber, Village Clerk.
Utah	Ogden	Sept. 21, 8 P.M.	Building sidewalks in Sidewalk Dist. No. 18, Ext. 3.	A. F. Parker, City Engineer.
Virginia	Soldiers' Home	Sept. 21	Concrete paving, 260 sq. yds., etc.	John P. Hume, Treasurer.
Illinois	Mattoon	Sept. 22	Brick paving, concrete curb and gutter, 14th St.; \$7,000.	C. L. James, City Engineer.
Missouri	St. Louis	Sept. 22	Improving 3½ miles of alleys; cost, \$75,000.	A. J. O'Reilly, Pres. Bd. Pub. Imp.
Indiana	Peru	Sept. 23	Grading, paving and culverting 7 roads, in 3 twps.	Chas. Griswold, Co. Auditor.
Ohio	Cincinnati	Sept. 25, noon	Improving Rich road; specifications No. 788.	Stanley Struble, Pres. Co. Com'rs.
Massachusetts	Fort Andrews	Sept. 28, 10 A.M.	Bldg. macadam roads, concrete walks, etc.	Capt. Ira L. Fredenhall, Q. M.
Indiana	Frankfort	Sept. 29	Constructing 25 district gravel roads.	Clinton County Com'rs.
Water Supply				
Connecticut	Stamford	Sept. 10, 2 P.M.	Bldg. dam with other work for enlarging reservoir.	A. J. Hatch, Pres. Water Co.
Pennsylvania	Pleasantville	Sept. 10, 4 P.M.	Covering 16,500 ft. c. i. pipe, setting hydrants, etc.	R. M. Davidson, Chm. W. W. Com.
South Dakota	Geddes	Sept. 10, 8 P.M.	Bldg. 22 x 22 ft. wooden tank on 80-ft. steel tower.	L. L. Davis, City Auditor.
New Jersey	Hopewell	Sept. 10, 8 P.M.	Constructing 5,000,000 gal. reservoir and 5,000 ft. force mains.	E. V. Savage, Boro. Clerk.
Michigan	Suttons Bay	Sept. 10	Installing water works system.	Marcus Hoyt, Chm. W. W. Com.
Kansas	Cottonwood Falls	Sept. 10	Furn. labor and material for water works; new bids.	W. W. Sanders, City Clerk.
Nebraska	Gothenberg	Sept. 10	Constructing water works, to cost \$35,000.	C. F. Williams, City Clerk.
Pennsylvania	Franklin	Sept. 11, 1 P.M.	Constructing reinforced concrete reservoir.	E. K. Smiley, Clk. Co. Comrs.
Oregon	Portland	Sept. 11	Furnishing 500 fire hydrants.	Harry Lane, Mayor.
Indiana	Terre Haute	Sept. 12, 11 A.M.	Water main from pressure tanks to Court House.	L. P. Seeberger, Chm. Co. Com'rs.
West Virginia	Pennsboro	Sept. 12	Bldg. pipe dis. system and water storage tanks.	W. J. Kutter, Recorder.
Dist. of Col'bia	Washington	Sept. 14, 10:30 A.M.	Furnishing water meters for Isthmian Canal Com.	Capt. F. C. Boggs, U. S. Army.
Missouri	New Haven	Sept. 14	Furn. and installing W. W. inc. 4, 6, 8-in. pipe, hydrants, valves, concrete reservoir, air compressor, pump, etc.	W. A. Fuller, Chm. Bldg., St. Louis.
Mississippi	Gulfport	Sept. 15, 8 P.M.	Bldg. reinforced concrete reservoir.	M. F. Sullivan, City Engineer.
Arizona	Morenci	Sept. 16, 9 A.M.	Laying 25,000 feet 10-in. wrought steel pipe.	Morenci Water Co.
Ohio	Oxford	Sept. 16, noon	Bldg. water supply system and fire lines.	President, Miami Univ.
New York	New York	Sept. 17	Furn. material and labor for laying water pipe in 5 Bronx parks.	Henry Smith, Pres. Park Board.
Texas	Austin	Sept. 19	Bldg. 89 x 64 x 35 ft. concrete-steel addition to pumping station.	Water, Light and Power Com'rs.
South Dakota	Aberdeen	Sept. 21, 8 P.M.	Constructing 8-in. artesian well.	F. W. Raymond, City Auditor.
Ohio	Pleasant Hill	Sept. 21	Constructing water works, to cost \$16,000.	A. C. Reed, Engineer.
Ohio	Cincinnati	Sept. 22, noon	Construction and del. of machine tools and other appurtenances for pumping stations, filter plant and intake pier.	Elmer G. Prior, Clk. W. W. Com'rs.
Pennsylvania	Reading	Sept. 22, 7:30 P.M.	Constructing slow sand filters for Maiden Creek supply.	L. S. Ramsey, Sec'y Water Bd.
New York	Shortsville	Sept. 22, 8 P.M.	Constructing complete water works system, inc. 3½ miles 10, 8, 6-in. c. i. pipe; elev. tank; dup. pumping plant, triplicate pumps with gaso. or elec. power; Col. well and pump house.	S. L. Heath, Village President.
Minnesota	Keewatin	Sept. 22	Constructing water works.	P. A. McEachin, Village Recorder.
Ohio	Cincinnati	Sept. 22	Furn. lime and sulphate of iron for filtration plant.	Aug. Herrmann, Pres. Com. W. W.
Louisiana	Harrisburg	October 5	Drilling 4-inch artesian well.	W. W. Bethard, Sec'y Police Jury.
Indiana	Evansville	Oct. 12, 7 P.M.	Constructing municipal filter plant; cost, \$25,000.	H. M. Madden, Clk. Water Board.
Brit. Columbia	Vancouver	October 14, 4 P.M.	Supplying c. i. pipes, steel pipes, and Ludlow Water Hydrants.	W. McQueen, City Clerk.
New York	Cohoes	Nov. 2	Plans, specifications and estimate of mechanical filtration plant.	A. T. Kniffin, Supt. W. W.

Sewerage

Pennsylvania..	Danville.....	Sept. 10.....	Bldg. sewage disposal plant at State Infirmary.....	Dr. H. B. Meredith, Supt.
Tennessee..	Memphis.....	Sept. 10.....	Furn., etc., 20-in. centrifugal pump.....	J. H. Weatherford, City Engineer.
Illinois.....	Chicago.....	Sept. 10.....	Bldg. Kedzie Ave. brick sewer; concrete bulkhead at outfall; concrete inverted siphon; street connections, etc.....	H. S. Dietrich, Pres. Bd. Local Imp.
Illinois.....	Elgin.....	Sept. 10.....	Bldg. 6th ward sewer, including 4,955 ft. concrete sewer; 83,942 ft. pipe sewer; cost, \$99,054.....	Carl E. Plum, City Engineer.
Pennsylvania..	Pitcairn.....	Sept. 11, noon.....	Constructing 8-in. sewers in four streets.....	Harrop, Hopkins & Taylor, B'ro. Eng's.
Ohio.....	Dayton.....	Sept. 11.....	Bldg. 500 ft. 6 to 12-in. storm water sewer.....	W. A. Budroe, City Clerk.
Minnesota..	Two Harbors.....	Sept. 13.....	Constructing sewer in Third Ave.....	City Council.
Dist. of Col'bia.	Washington.....	Sept. 14, 10:30 A.M.....	Furnishing vitrified pipe for Isthmian Canal Com'n.....	Capt. F. C. Boggs, U. S. Army.
Ohio.....	Steubenville.....	Sept. 14, noon.....	Bldg. 180 ft. brick 5-ft. egg-shaped sewer; 1,750 ft. brick 42-in. circ., 1,553 ft. 36-in., 818 ft. 30-in.; 9,838 ft. 24 to 6-in vit. pipe sewer, 34 manholes, etc.....	J. N. Leech, City Engineer.
Dist. of Col'bia.	Washington.....	Sept. 14, noon.....	Constructing section C of East Side intercepting sewer.....	District Commissioners.
Dist. of Col'bia.	Washington.....	Sept. 14, noon.....	Furnishing two vertical compound engines at the sewerage pumping station.....	Com'rs District of Columbia.
Mississippi....	Vicksburg.....	Sept. 14, 8 P.M.....	Furn. material and laying system of house sewers, inc. 30 miles 8 to 27-in. pipe or concrete sewers, 400 manholes, 100 flush tanks; W. G. Kirkpatrick, C. E. Jackson, Engineer.....	H. J. Trowbridge, City Clerk.
California.....	Redondo.....	Sept. 14.....	Bldg. \$7,000 sewer, 3,810 ft. 10-in.; 2,263 ft. 16-in. c. i. pipe.....	Chas. J. Creller, City Clerk.
Illinois.....	Peoria.....	Sept. 15, 2 P.M.....	Constructing sewer; estimated cost, \$230,000.....	I. J. Levinson, Sec'y Bd. of Loc. Imp.
Minnesota..	Virginia.....	Sept. 15, 8 P.M.....	Constructing sanitary sewer, Dist. No. 1.....	Albert E. Bichford, City Clerk.
Ohio.....	Upper Sandusky.....	Sept. 15, noon.....	Bldg. 52 75-ft. 20 to 48-in. comb. sewers, vit. pipe, etc.....	A. H. Stutz, Village Clerk.
California.....	Oakland.....	Sept. 16, 11 A.M.....	Constructing vit. pipe sewers, Fallon, 6th and Oak streets.....	W. B. Fawcett, Sec'y Bd. Pub. Wks.
Louisiana....	Natchitoches.....	Sept. 16, 4 P.M.....	Bldg. sewer system and disposal plant, State Normal School.....	I. W. Sylvester, C. E. Alexandria.
New York....	Brooklyn.....	Sept. 16.....	Bldg. sewers, E. 98th St., Secs. 1 and 2; also sewer 85th St.....	Bird S. Coler, Boro. Pres.
Iowa.....	Cedar Rapids.....	Sept. 20.....	Bldg. pipe sewers in 8th Ward; cost, \$1 per foot.....	L. J. Storey, City Clerk.
New Jersey..	Hoboken.....	Sept. 23, 8 P.M.....	Building ten new receiving basins.....	James H. Londrigan, City Clerk.
Pennsylvania..	Norristown.....	Sept. 30, 8 P.M.....	Bldg. sanitary sewers: 28,837 ft. 8-in., 2,425 ft. 10-in., 1,476 ft. 12-in., 11,000 ft. 8-in. laterals; 123 manholes, 34 flush-tanks.....	S. Cameron Corson, Boro. Eng'r.
Ecuador.....	Guayaquil.....	December 1.....	Constructing sewerage system.....	Int. Bur. of Am. Rep., Wash'tn, D.C.

Bridges

Indiana.....	Goshen.....	Sept. 10, 9:30 A.M.....	Building and repairing 7 county bridges.....	D. O. Batchelor, County Auditor.
Pennsylvania..	Monongahela.....	Sept. 10, noon.....	Bldg. three 455-ft. spans, carried on 2 concrete abutments and 2 stone river piers with pile and concrete foundations.....	F. P. Booth, County Controller.
Ohio.....	Ashland.....	Sept. 10, noon.....	Bldg. bridge in Clear creek twp.; also 50 ft. steel super.....	E. B. Westover, County Auditor.
Pennsylvania..	Wilkes-Barre.....	Sept. 10, 2 P.M.....	Bldg. steel girder bridge near Prospect Breaker.....	Harry Meyers, Pittston, Eng'r.
Massachusetts.	Boston.....	Sept. 10.....	Rebuilding Massachusetts Ave. bridge.....	Wm. Jackson, City Engineer.
Illinois.....	Lenzburg.....	Sept. 10.....	Building concrete and I-beam bridge at Main St.....	Henry Schneiderwind, Vil. Clk.
Ohio.....	Ashland.....	Sept. 10.....	Constructing 4 small bridges.....	E. B. Westover, County Auditor.
Pennsylvania..	Allentown.....	Sept. 11, 10 A.M.....	Repairing, alterations, etc., bridge at Hokendauqua.....	County Commissioners.
Pennsylvania..	Norristown.....	Sept. 11, 11 A.M.....	Building steel girder bridge.....	John H. Dager, County Engineer.
Pennsylvania..	Reading.....	Sept. 11, 10 A.M.....	Bldg. rein. concrete bridge at Rapont over Hay Creek.....	County Controller.
Pennsylvania..	Pittsburg.....	Sept. 11.....	Bldg. 2 rein. concrete bridges; repairing many others.....	F. P. Booth, Co. Comptroller.
Ohio.....	Lancaster.....	Sept. 12, 11:30 A.M.....	Bldg. steel superstructures of 3 bridges.....	H. C. Belt, Clk. Co. Com'rs.
Kansas.....	Independence.....	Sept. 14, noon.....	Bldg. 16 steel and 1 concrete bridge.....	E. H. Stewart, County Clerk.
Idaho.....	Moscow.....	Sept. 14, 2 P.M.....	Constructing two bridges.....	Alex. P. Ramstedt, County Clerk.
New York....	Oneida.....	Sept. 14.....	Bldg. \$2,000 bridge over creek at Kenwood.....	Board of Public Works.
California.....	Los Angeles.....	Sept. 14.....	Bldg. rein. concrete bridge over river at Main St., inc. 600 cu. yds. Class A concrete; 1,822 yds. B, 3,852 yds. C, 540 tons rip-rap; 614 foundation piles, etc.....	Board of Public Works.
North Dakota..	Williston.....	Sept. 15, 10 A.M.....	Bldg. steel or rein. concrete bridge, rein. concrete floor and abut., 40 ft. long; 16 ft. roadway; 10 ft. above water.....	E. M. Atterberry, Co. Auditor.
Montana.....	Great Falls.....	Sept. 15, 11 A.M.....	Bldg. 3 steel bridges for County.....	County Commissioners.
New York....	Amsterdam.....	Sept. 15.....	Bldg. 2-span steel bridge, 465 ft. long, complete.....	W. Barlow Dunlap.
Arizona.....	Morenci.....	Sept. 16, 9 A.M.....	Bldg. light truss bridge, 190 ft. long, steel frame power house, 65 x 80 steel tanks.....	Morenci Water Company.
Pennsylvania..	Somerset.....	Sept. 16, 10 A.M.....	Bldg. rein. concrete arch or concrete floored steel bridge and abutments; 30 ft. span, 16 ft. rdway. over Brush Creek.....	County Commissioners.
Pennsylvania..	Franklin.....	Sept. 16, 1 P.M.....	Constructing steel or wooden bridge.....	E. K. Smiley, County Clerk.
Oklahoma....	Stillwater.....	Sept. 17, 6 P.M.....	Bldg. 380 ft. suspension or truss bridge; also four 60 and 75-ft. steel bridges and other bridge work.....	W. H. Donart, County Clerk.
Ohio.....	Mt. Gilead.....	Sept. 17, 11:30 A.M.....	Bldg. 40-ft. span Fate bridge, with 16-ft. roadway.....	J. C. McFarland, Co. Auditor.
Idaho.....	Post Falls.....	Sept. 17.....	Bldg. \$12,000 steel bridge over Spokane river.....	County Com'rs, Rathdrum.
Ohio.....	Troy.....	Sept. 21, 10 A.M.....	Bldg. rein. concrete or steel bridge in Piqua, 27 ft. long, 26-ft. roadway; 150 lbs. live load; perm. floor system.....	E. E. Pearson, Co. Auditor.
California.....	Los Angeles.....	Sept. 21, 2 P.M.....	Bldg. 600 ft. steel trestle or rein. concrete bridge.....	C. G. Keyes, County Clerk.
Ohio.....	Mt. Vernon.....	Sept. 21.....	Bldg. substructure of Allen bridge, Howard twp.....	C. A. Mitchell, Co. Auditor.
Ohio.....	Cincinnati.....	Sept. 25.....	Bldg. bridge over So. Fork, Taylor's Creek, Green twp.....	Fred Dreihis, County Clk.
Ohio.....	Cleveland.....	Sept. 26.....	Bldg. bridge abutments, report 2,031, Olmstead twp.....	A. B. Lea, County Surveyor.
Minnesota..	Little Falls.....	Sept. 29, 1 P.M.....	Bldg. bridge over Crow Wing river, with plans, etc.....	Wm. A. Butler, County Auditor.
Kentucky....	Stanford.....	Oct. 1.....	Bldg. iron or steel bridge, two 32-ft. spans, 16 ft. wide.....	G. B. Cooper, County Clerk.
Ohio.....	Cincinnati.....	Oct. 1, noon.....	Improving Eighth St. viaduct; \$7,000 check.....	John J. Wenner, Clk. Bd. Pub. Ser.
Ontario.....	L'Orignal.....	Oct. 6, noon.....	Bldg. 115-ft. iron span; also concrete or stone work.....	Abbott Johnson, County Clerk.
Dist. of Col'bia.	Washington.....	Oct. 8, 11 A.M.....	Bldg. single-leaf railway rolling lift bridge at navy yard.....	R. C. Hollyday, Navy Dept.

Lighting and Electricity

Ohio.....	Mansfield.....	Sept. 10, noon.....	Bldg. power house, conduits, etc., boilers, steam pump, etc.....	Geo. H. Weedner, Co. Auditor.
New York....	White Plains.....	Sept. 10, 2 P.M.....	Elec. equipment, etc., for Supreme Court Building.....	C. T. Secor, Bd. Supervisors.
Connecticut..	Hartford.....	Sept. 14, 11 A.M.....	Lighting streets with electricity for 1 and 5 years.....	City Clerk.
New Jersey..	Asbury Park.....	Sept. 14.....	Franchise for municipal and commercial lighting and for furnishing heat and power by electricity in city.....	W. C. Burroughs, City Clerk.
Wisconsin....	Cumberland.....	Sept. 14.....	Installing two 3-phase 75 to 100 k.w. generators, dir. con. to Corliss engine; motor-driven triplex pump, bldg., etc.....	A. F. Wright, City Clerk.
Ohio.....	Columbus Bar'ks.....	Sept. 15, 10 A.M.....	Furn. and install, elec. light fixtures, meters, etc.....	Capt. H. J. Hirsch, Q. M.
Manitoba....	Winning.....	Sept. 15.....	Electric lighting plant and carbons.....	F. A. Cambridge, City Electrician.
New York....	New York.....	Sept. 17.....	Furn. 7 elec. motors and cables, Mus. Nat'l History.....	Henry Smith, Pres. Park Board.
Texas.....	Austin.....	Sept. 19, noon.....	Bldg. rein. conc. pumping station, 89 x 63 1/2 x 34 ft.; also foundations for 2 pumping engines, etc.....	Geo. L. Hume, Pres. Lt. & Power Com'n.
Ohio.....	Xenia.....	Sept. 19, noon.....	Furn. material and building new power plant; remodeling lighting and water system at Soldiers' Home, etc.....	Col. J. C. Roland, Sec'y S. & S. Home.
Washington..	Tacoma.....	Sept. 19.....	Water power, electric light and power plant.....	H. J. McGregor, Com'r Pub. Wks.
Ohio.....	Portsmouth.....	Sept. 24, noon.....	Lighting streets, alleys, etc., for 3, 6 or 10 years.....	M. W. McMahon, Clk. B. P. S.
Illinois.....	Chicago.....	Sept. 24.....	Furn. & installing electric machinery and turbine waterwheel.....	I. J. Bryan, Clk. Bd. Trus. San. Dist.
Dist. of Col'bia.	Washington.....	Sept. 24.....	Furn. dynamos for Isthmian Canal Com.....	Capt. F. C. Boggs, U. S. Army.
Iowa.....	Hartley.....	Sept. 24.....	Installing electric light plant, inc. gas producer, gas engine, dynamos, switch board, storage battery and pole lines.....	E. B. Rich, Ft. Dodge, Engineer.
Ohio.....	Minerva.....	Sept. 24.....	Furn. 150 h.p. boiler, 150 lbs. steam pressure for light plant.....	L. E. Weber, Sec'y Bd. Pub. Serv.
Ontario.....	Toronto.....	Sept. 28, 6 P.M.....	Installing transpower equipment.....	Adam Beck, Hwy. Elec. Pwr. Com.
Wisconsin....	Cashton.....	October 1.....	Constructing \$10,000 electric light plant.....	S. G. Reque, Westby, Eng'r.
Porto Rico....	Ponce.....	October 15.....	Constructing electric light plant.....	Blass C. Silva, City Engineer.

Miscellaneous

Ohio.....	Cincinnati.....	Sept. 10, 2 P.M.....	Constructing concrete dam at Brown's Island, Ohio River.....	Colonel Wm. T. Russell, U. S. A.
New York....	Brooklyn.....	Sept. 11.....	Grading, etc., Greenpoint Park.....	Henry Smith, Pres. Park Bd.
Pennsylvania..	Pittsburg.....	Sept. 11.....	Constructing fire escapes on Pittsburg Academy.....	F. P. Booth, County Controller.
Tennessee..	Chattanooga.....	Sept. 12, noon.....	Building road through Jackson Park.....	S. B. Cook, Chm. Park Com'rs.
Ohio.....	Toledo.....	Sept. 14, noon.....	Furn. 2d size steam fire engine.....	J. J. Mooney, Pres. Bd. Pub. Safety.
New Jersey..	Paterson.....	Sept. 15.....	Grading, masonry, bridging Sec. 1, No. Jersey Rap. Tr. Co.....	No. Jersey Rapid Transit Co.
Minnesota..	Eveleth.....	Sept. 15.....	Furn. comb. chemical and hook and ladder truck.....	D. T. McIntyre, City Clerk.
Illinois.....	Chicago.....	Sept. 21, 11 A.M.....	Furn. labor and material for placing street signs in district bet. Chicago Ave., Lake Mich.; 12th St. and Halsted Sts.....	Wm. Carroll, City Electrician.
New Jersey..	Hoboken.....	Sept. 23, 8 P.M.....	Removal of ashes, garbage, rubbish, street sweepings, etc., of city for one year, beginning Sept. 25.....	James H. Londrigan, City Clerk.
Dist. of Col'bia.	Washington.....	Sept. 24.....	Furn. hose for Isthmian Canal Commission.....	Capt. F. C. Boggs, U. S. Army.
Maryland....	Baltimore.....	Sept. 25, 11 A.M.....	Composing designs for truck house.....	Edw. D. Preston, Insp. of Bldgs.
Dist. of Col'bia.	Washington.....	Sept. 28, 10:30 A.M.....	Elec. indus. ry., inc. 15,600 ft. track, 12 elec. locos., 24 cars.....	Purchasing Of., Isth. Canal Com'n.
Arkansas....	Harrisburg.....	October 5.....	Plans, etc., for Boone County Court House.....	J. B. Curnutt, R. F. D. No. 2.

STREET IMPROVEMENTS

Anniston, Ala.—The city will advertise for bids on 16,000 square yards bitulithic or concrete block pavement for streets; also sidewalk improvements, that will comprise about 8,000 to 10,000 yards of cement paving.—J. D. Hunter, City Engineer; Thomas E. Kilby, Mayor.

Clanton, Ala.—The Clanton Light and Power Company, J. P. McVan Derveen, General Manager, will install one 40-horsepower automatic engine and one 100-horsepower internally-fired return tubular boiler.

Decatur, Ala.—Bids for the construction of a system of roads in Morgan County will be received at the office of Wm. E. Skegg, Judge of Probate; \$240,000 is to be expended.

Linden, Ala.—J. A. Johnson and O. A. Johnson will be granted a franchise by Council to establish an electric light plant; gasoline engines will be used to furnish the power.

Hot Springs, Ark.—Arrangements are under way for improvements to be made to roads between Little Rock and this city.

Little Rock, Ark.—For paving South High street to 32d street it is estimated it will cost \$2,000 per block.

Chico, Cal.—All bids opened August 20 for grading and graveling streets have been rejected; new bids will probably be received.

Lompoc, Cal.—Improvements are planned by the Supervisors and Board of Highways to the roads throughout this section. About \$185,000 is to be expended.

Pasadena, Cal.—Plans are under way for a new highway from Pasadena, through Los Angeles and on to Long Beach.

Sacramento, Cal.—The Citizens' Advisory Committee on Good Roads has adopted the plans and specifications of County Surveyor Phinney for the improvement of the Folsom road from Brighton to Folsom; contract will be let immediately so that it can be started at once; the estimated cost is \$99,890. The matter of covering the Twelfth street bridge with a coat of asphaltum was referred to the Executive Committee; it was recommended that 100 feet of the bridge be covered with asphaltum as a test. The plans for the Fair Oaks fill and trestle were also adopted; the cost is estimated at \$700.

San Diego, Cal.—A campaign has been started for good roads here, and in this county.—Address Temporary Secretary Frank Peltret.

San Francisco, Cal.—The Secretary of the Board of Public Works has been directed to invite proposals for the paving of Montgomery street, from Market to Pacific; this will be done with asphalt and on a concrete foundation, at an estimated cost of \$46,475.

San Jose, Cal.—Improvements are to be made to the roads in this section; all the roads throughout Santa Clara County are to be improved if present plans are carried out.

Denver, Col.—A portion of right of way has been acquired for a boulevard to be constructed from 38th and Downing avenues to the Brighton road.—J. B. Hunter, Engineer Board of Public Works.

Leadville, Col.—Another link is soon to be built in the public road that will eventually connect Leadville with Aspen. State Engineer Jaycox and Governor McDonald drove over a part of the proposed route of the new highway. He became thoroughly familiar with conditions, and expects to have the work under way in a short time. A bill appropriating \$3,000 provides for a road from the present terminus of the State road from Aspen, to a point in Lake County, where it would connect with a road, were one completed, west from Twin Lakes. G. N. Houston, Deputy Engineer, has completed the plans for this work, and will soon let the contract; it is expected that further appropriations will be secured to complete the highway, making a good State road all the way from Leadville to Aspen. When this work is finished there will yet remain a stretch of a few miles which will furnish the connecting link at some future time.

Southington, Conn.—The Borough of Southington at a special meeting held August 28 made an appropriation of \$14,500 to macadamize Eden street from its intersection with Bristol street to the Safety avenue crossing. Samuel H. Mackenzie is Engineer.—Warden Doolittle, Chairman of Borough meeting; Richard Ellroth, Clerk.

Wilmington, Del.—Bids will be received until September 21 for \$100,000 street improvement bonds.

Jacksonville, Fla.—A hard road may be built all the way from Jacksonville to Palatka, a distance of fifty-five miles. The Standing Committee of the Board of Trade of Streets, Roads and Bridges, of which Mr. A. S. Mann is Chairman, is interested. Work is being done towards building a hard road between Palatka and Gainesville, and Putnam County has set aside a hard road fund and several miles of this road have already been constructed between Palatka and the Alachua County line. On the Alachua side of the county line the prospects are

still better and the hard road from Gainesville to the Putnam County line is almost complete. The completion of the whole line will mean a continuous drive from Jacksonville south and southwest of 106 miles of hard road.

Pensacola, Fla.—A bond issue is proposed for building good roads throughout this city and State.—Address President of the Chamber of Commerce.

Atlanta, Ga.—Work is soon to begin on paving Peachtree with bitulithic paving.

Elgin, Ill.—Accompanied by half a dozen prominent residents of North Spring street City Engineer Carl E. Plum recently went to Chicago to look over a new material for paving. The petition which gained many signers asked for asphalt pavement, on a forty-two foot roadway, from the north line of North street to the south line of Grand avenue; the paving will cover 26,710 square yards; it will be necessary to reset 11,390 feet of curbing, and the specifications call for 11,367 feet of concrete gutter. The cost of the entire improvement will be \$63,900, if the present plans are followed. The cost per foot of frontage will be \$2 and \$132 for a sixty-foot lot. The entire length of the pavement will be 5,869 feet. There is a possibility that the material for this improvement may be changed. The Dundee avenue pavement is to be of the brick variety, and will extend from the south line of North street, east of Dundee avenue, to the northern extremity of the street in the city limits; although the plans for paving this street were broached six months ago, and although it was voted at a public hearing of the property holders to make the improvement, the project has been delayed.

Cullom, Ill.—Council has decided to construct cement walks on several streets.

Peoria, Ill.—Work was begun on the improvements to be made on the streets on the north side of Court street; Fourth is to be paved from Court to Margaret streets; the block on North Capitol will also be paved, new sidewalk is to be put in, and the curbing is to be lowered a foot or two; sidewalk laid at a level.

Rockford, Ill.—It is proposed to pave Main and State streets at a cost of \$73,000; bids will be advertised for shortly for more than a mile of asphalt paving, brick center and brick gutter, to be laid this Fall.—Mark Jardin is President Board of Local Improvements; S. B. Hand is City Engineer.

Sterling, Ill.—Only one bid was received by the Committee on Streets and Alleys for macadamizing West Fifth street, between Avenues D and G, and same was rejected; the committee will advertise for new bids.—J. E. Conlon, Chairman.

Elkhart, Ind.—Notwithstanding there were few objections in evidence at the regular meeting of the Board of Public Works to consider the South Main asphalt-macadam paving project for Main street from Prairie south, which is to cost \$40,000, considerable protest is now developing. The reasons assigned is that the people do not want any kind of a pavement at present.

Indianapolis, Ind.—Plans have been ordered for asphalt roadway in Twenty-eighth street, from Meridian to Central, and cement walks in Alabama street, from Pratt to Eleventh.

New Fall Creek boulevard is proposed from Capitol avenue to 23d street at a cost estimated at \$16,000.

New Albany, Ind.—The Board of Public Works has received a petition for the improvement of Fifteenth street; from Main street to the first alley south of Spring street the improvement is to be a twenty-four-foot roadway of vitrified brick, cement curb and gutter, lawn and a six-foot granite sidewalk; from the alley northward to Beeler street the improvement is to be a thirty-two foot roadway, granite sidewalk and grass plat. The Monon tracks occupy eight feet of the center of the roadway from the alley to Beeler street. Other improvements are also ordered.

Vincennes, Ind.—The Board of Works has received a petition signed by almost all the property owners along Indiana avenue, asking for the opening and extension of Indiana avenue from its present terminus through the Fosmeyer land, including what was formerly known as Electric Park, so as to connect up to the continuation of the same street through the Baker & Emison addition to the city limits.

Burlington, Ia.—The paving of Sunnyside avenue with telford is contemplated.

Cedar Rapids, Ia.—All bids opened August 12 for paving North Seventh street are rejected, and new bids will be received.

Davenport, Ia.—The Paving Committee has decided to pave Tenth street from Farnam to the alley east of Arlington avenue with brick.

Davenport, Ia.—City Engineer Thomas Murray has prepared plans for improving Ripley, Harris and Oak streets; other work is also contemplated.—George W. Scott, Mayor.

Des Moines, Ia.—Council has passed a

resolution to make improvements by paving with No. 1 vitrified paving brick upon five inches of Portland cement foundations, alleys and parts of alleys in Locust street and Grand avenue, from the west line of Ninth street to the east line of Tenth street.—A. J. Mathis, Mayor.

Silvis, Ia.—Work of construction will soon be started on the new sewer system, the sum of \$10,000 having been donated by the Rock Island road for the work.

Emporia, Kan.—Council has passed an ordinance for nine blocks of brick paving on Constitution street. Bids will be received about January 1, 1909.—George Mathewson, City Clerk.

Lexington, Ky.—Among the streets to be reconstructed according to the list presented to Council are: Ashland avenue, from Main to High street; Alabama avenue, from Lime-stone to Walnut; Vine street, from Lime-stone to Merino; Bryan avenue, from Main to Central avenue; Washington avenue, from Rose to Limestone; Oldham avenue, from High to Euclid. Others may be added, although those mentioned are believed to be necessary this year. The material is left to the property owners.

New Orleans, La.—The city will continue improvements to Carrollton avenue, paving to be done thereon from St. Charles avenue to the City Park avenue; this resolution to continue work was adopted by the Progressive Union.

Camden, Me.—The Selectmen have advertised for bids on the piece of State road that is to be built for 2,000 feet on High street.

Elkton, Md.—The Board of County Commissioners of Cecil County recently discussed good roads for Cecil County; improvements to cost about \$25,000 are planned.

Rockville, Md.—Bids are being received by the County Commissioners for constructing a pike road from Potomac to the Conduit road, a distance of about four and a half miles.

Fall River, Mass.—Mayor Coughlin has signed the order providing for the issue of \$15,000 bonds for highway improvement and \$3,000 bonds for sidewalks.

Granby, Mass.—A new highway east of Granby village toward Belchertown is proposed, and to Holyoke, by way of South Hadley Falls.

Detroit, Mich.—Council has directed the Department of Public Works to advertise for proposals for paving an alley, 20 feet wide, with vitrified brick, on concrete foundation.—J. J. Haarer, Commissioner.

Council has directed the Department of Public Works to advertise for bids for paving Belvidere avenue from Chapin street to Gratiot avenue, 26 feet wide, with city cedar blocks on concrete foundation with Medina Berea or other suitable curbing; cost estimated at \$11,539.—J. J. Haarer, Commissioner.

Menominee, Mich.—Council has directed specifications to be prepared for paving two miles of city streets with brick.

Duluth, Minn.—The City Engineer has estimated the cost of grading a portion of Eighth street at \$15,987.

Minneapolis, Minn.—A new improvement is to be added to the city, being the replacing of the old, foot-worn stone pavements on Nicollet avenue with new concrete slabs.

St. Paul, Minn.—A favorable report has been returned on the proposal to curb Beacon street, from University to Shields, and Ashland avenue, from Farrington to Dunlap, by the Board of Public Works; residents along Ashland propose that the curbing used in that thoroughfare shall be sandstone, which proposition the Board has approved.

St. Paul, Minn.—The Board of Public Works has appropriated \$15,000 for sewers in Fairview avenue.

Chillicothe, Mo.—J. Broadus, City Engineer, has prepared plans and specifications for the paving of West Jackson street; estimated cost \$14,000.

Sedalia, Mo.—Council has passed a resolution providing for the paving of Moniteau avenue.

Springfield, Mo.—North Jefferson will be paved at a cost of \$12,269.—Harry G. Horton, City Engineer.

Bayonne, N. J.—E. W. Dalrymple, City Engineer, states with regard to bids which were to have been opened on August 18, for furnishing material and paving Broadway from First street to the Morris Canal bridge were returned unopened, and new bids will be called for later on.—W. C. Hamilton, City Clerk.

Camden, N. J.—It has been decided to repave Federal street, from Cooper's Creek to Twenty-seventh street, and Westfield avenue, between Twenty-sixth and Twenty-seventh streets, with a patent bitulithic pavement, which will be the first of this kind of paving to be done in the city.

Hoboken, N. J.—Petitions will soon be circulated for repaving Bloomfield street with wood block.

Newark, N. J.—The Road Committee of the Board of Freeholders decided to recommend to the Board that Mill street and Green Brook avenue, Caldwell Township, be paved with Telford under the provisions of the State road act; Charles W. Sandford of the State Board of Education will appear before the committee to urge the proposed paving.

Brooklyn, N. Y.—All bids opened on August 19 at the office of Bird S. Coler, Borough President, for regulating and paving with asphalt, Blake avenue, from Hopkinton avenue to Junius street, have been rejected, and new bids will be called for. The work includes 9,010 square yards of asphalt pavement and 1,254 cubic yards of concrete.

Buffalo, N. Y.—Commissioner Ward has requested an appropriation of \$85,000 to carry out street repairs ordered; at present there is but \$58,612.10 available for this work; the estimated cost for work done or contracted for is \$95,061.97. Work to be done in Amherst, Babcock, Bean, Glenwood, Fifteenth, Johnson, Louisiana and Lafayette will cost \$31,874.70.

Charlotte, N. Y.—A special meeting was held here recently, when plans were discussed for improvements to be made to highways and road; Charlotte Boulevard is to be improved and widened. County Engineer McClintock can be addressed.

Elmira, N. Y.—A new road to be seven miles long and to connect this city with Barton is to be constructed next summer.

Fulton, N. Y.—The Board of Public Works met with Mr. Morrill and Mr. Wells concerning the proposed paving, and voted that the paving on Cayuga street between Second and Third streets be done by the city under the supervision of Mr. Flynn.

Glens Falls, N. Y.—All bids opened August 24 for about 6,352 square yards of asphalt pavement on a Portland cement concrete foundation in Warren street have been rejected; the contract will not be let this Fall. —H. M. West, City Engineer.

Hoosick Falls, N. Y.—At a special meeting of the Town Board recently improvement to roads was discussed.

Jamestown, N. Y.—Council has directed the Board of Estimate to advertise for bids for paving Lake View avenue with bitulithic or asphalt block and paving between the street railway tracks with brick.

Mineola, L. I., N. Y.—The Nassau County Supervisors have plans for improving Flower Hall avenue, Port Washington, and other roads in this section.

Newburgh, N. Y.—City Engineer Wm. J. Blake, Jr., is preparing plans for approximately 5,880 square yards of paving, either asphalt block, vitrified block or Warren bitulithic pavement, on Renwick street, between Liberty and William streets. Bids will be called for by D. J. Coutant, City Clerk.

Oneida, N. Y.—Former Mayor Goldstein appeared before Council in reference to additional fire protection, and advocated the laying of a new pipe line from the reservoirs to the city.

Otsego, N. Y.—At a special meeting of the Board of Supervisors of Otsego County the question of construction of several new short pieces of road were discussed; it is proposed to expend between \$115,000 and \$120,000.

Port Chester, N. Y.—The Board of Trustees of the village have voted to have Villett avenue and South Main street with bitulithic pavement.

Rochester, N. Y.—Investigations are being made for new improvements to be made to Charlotte Boulevard. County Engineer McClintock can be addressed.

A petition to have the Summerville boulevard treated with oil tar from Seneca Park to Summerville is being circulated along the boulevard and receiving many signatures. If the petition is granted, the roadway for its entire width will be treated for a distance of about four miles. The Summerville boulevard is owned by the Rochester and Irondequoit Turnpike Company, which is a subsidiary of the Rochester Railway Company, which in turn, is a subsidiary of the Rochester Railway and Light Company, the control of which is owned by the Mohawk Valley Company. It is probable that the petition will be granted by the turnpike company. The estimated expense of treating the entire boulevard is about \$200 a mile, and the cost of maintenance not far from \$100 a year.

Waverly, N. Y.—The town of Barton is to have seven miles of new highway to be built next Summer.

Yonkers, N. Y.—Council will probably order the laying out and opening of Alexander street from Ashburton avenue to Wells avenue, and Cedar street from Elm to Spruce street. —John T. Geary, Clerk Board of Estimate and Apportionment.

Graham, N. C.—The citizens of Almonce County have voted \$200,000 bonds for road improvements.

Mooreville, N. C.—An election will be held, September 22, to vote on the question of issuing \$25,000 street and water bonds.

Southport, N. C.—An election will be held, September 21, to vote on the question of issuing \$5,000 street improvement bonds.

Grand Forks, N. D.—Council has passed an ordinance prescribing that all sidewalks hereafter constructed within the city limits shall be of cement or cement tiles.

Bellaire, O.—Bellaire Place will be paved at a cost of about \$42,000. Address County Commissioners.

Cincinnati, O.—The City Engineer has estimated the cost of paving with asphalt Winchell avenue at \$19,708.

Fostoria, O.—An ordinance has been passed for macadamizing about a mile of Columbus avenue for a width ranging from 14 to 35 feet, at an approximate cost of \$19,559.

Girard, O.—Council has decided to grade and otherwise improve Abbey street.

Ravenna, O.—The Second National Bank of Ravenna has purchased \$14,500 4½ per cent. Ravenna street improvement bonds at a premium of \$390.05.

Sandusky, O.—The citizens are interested in proposed lake boulevard from Cleveland to Toledo. President Merz of the Sandusky Automobile Club is interested.

Scio, O.—Bids will be received, September 22, for the purchase of \$25,000 4½ per cent. street improvement bonds. —H. E. Johnson, Village Clerk.

Toledo, O.—The Board of Sinking Fund Trustees has decided to take the \$45,000 boulevard bond issue so that the work on this big improvement would not be hindered; they will take \$10,000 of the issue at once and the balance as fast as the money is needed.

Ardmore, Okla.—Ardmore must get along without paving for the present; bids were to have been opened recently by Council, but only one bid was on file and another bid from Sam Weeks and Arthur D. Hyde was ready and would have been submitted had the contracts been let; Mr. Weeks, however, was figuring on receiving his pay in funding bonds which he had arranged to dispose of, but payment for the work cannot be made in funding bonds but in improvement script.

Chickasha, Okla.—Specifications are being prepared for improving 104 blocks with paving.

Enid, Okla.—Bids will be received within the next thirty days for about 30,000 yards of asphalt pavement. —C. H. Sexton, City Engineer.

Muskogee, Okla.—The city will let ninety miles of sidewalks within the next month.

Oklahoma, Okla.—Council is arranging to pave several streets with brick on concrete foundation. —Geo. Hess, City Clerk.

Portland, Ore.—The paving of Grand avenue with asphalt is contemplated to cost \$45,559.

Pittsburg, Pa.—Contracts will soon be let for paving a number of streets, including Cecil alley, Forward avenue, Friendship avenue and Craig street to Bellefield avenue.

Scranton, Pa.—Director Acker, of the Department of Public Works, has announced that the big paving job on Railroad, Seventh and Fourth streets, will not be started until next Spring. He also stated that the Green Ridge street job and a number of others will not be started for some time. The only paving work this Summer which will be completed is that which is already under way.

Wilkes-Barre, Pa.—The Charles, Kennedy and Spring street measure has been passed through two readings for the construction of lateral sewers, and for the paving of Charles, Kennedy and Spring streets, and Landon street, and were ordered advertised.

West Chester, Pa.—A joint meeting of representatives of this town and a number of towns in this and adjoining counties was held at Lenape Park to discuss improvements to public highways.

Nashville, Tenn.—Roger Eastman presented to Council a petition on behalf of more than two-thirds of the property owners along Belmont avenue between Edgehill street and Belmont College, a distance of practically half a mile, for grading and macadamizing the street; it is 70 feet wide and on each side six feet is set aside for actual granitoid sidewalk, six feet for grass plot and six inches for curb, making a total sidewalk width of 25 feet, leaving 45 feet, and of this 3 feet on each side must go into gutters, leaving 39 feet to grade and macadamize. The street railway company owns about 18 feet of this for its double track. Mr. Eastman, who has had the work in hand, estimates that it would cost about \$3 per linear foot to grade and macadamize the street.

Park City, Tenn.—The money derived from the sale of \$105,000 bonds is to be used as follows: For street improvements, \$62,500;

for schools, \$20,000; for sanitary sewers, \$15,000, and for Fire Department, \$7,500; this ordinance has been passed on final reading with all nine members of the Council voting aye.

Houston, Tex.—The city has voted to issue \$100,000 bonds for additional street paving.

Nacogdoches, Tex.—Arrangements are under discussion for improving the roads throughout this section; the Highway Commissioners are back of the scheme.

Orange, Tex.—Arrangements have been made for the resurfacing of Fifth street, from Division to Green avenue, this being a distance of three blocks; about eight or nine hundred yards of shell will be required.

San Antonio, Tex.—A \$250,000 bond issue is proposed for improvements to roads in this city and vicinity.

Basic City, Va.—A sum of \$25,000 bonds will be issued for paving, sewer and water works construction. —Charles A. Van Lear, Mayor.

Norfolk, Va.—In a letter to the Finance Committee of Council the Board of Control again urges that prompt steps be taken to repair the Jamestown boulevard. The Controllers declare that according to a letter from the Seventh Ward Improvement Board that body seems indefinite about repairing that part of the highway which lies in the ward, and in commenting upon the letter the controllers declare the longer the delay in the repair work the greater will be the cost. The construction of a new highway between this city and Virginia Beach is being discussed by the Good Roads Committee of the Tidewater Automobile Association.

Bellingham, Wash.—The Board of Public Works granted a petition for the improvement of Victor street from Washington to North streets by grading and grubbing, and the construction of concrete walks; Council adopted the report of the Streets Committee that the thoroughfare be improved from Elk to Maryland streets, 32 feet in width, with a 16-foot graveled center from Kentucky to Maryland, and 44 feet in width with a 32 feet graveled center from Elk to Kentucky.

Puyallup, Wash.—Council has adopted resolution for paving Meridian street from Park avenue to Tacoma street, Stewart street from Rainier to J street, that portion of J street lying near the Northern Pacific depot, and Pioneer avenue one block east of Meridian street; in all 5,792 2-3 front feet; bids will be called for; the taking up of the water mains and storm sewers in Meridian street will be done before the brick is laid, thus doing away with any possibility of having to cut the pavement for underground repairs afterward.

Seattle, Wash.—Council has passed ordinances providing for asphalt paving on Minor avenue north to cost \$142,000, and in an alley in block 12, Capitol Hill, at \$3,300; also for concrete walks on Ninth avenue, northwest, to cost \$16,200 and Fourteenth avenue west, to cost about \$8,342.

Steps were taken at a combined meeting of the Green Lake Improvement Club and the Men's Civic League to have sidewalks constructed along the streets in the Green Lake district before the rainy weather season begins. The clubs also decided to work for the establishment of a bridge over Lake Union and the canal in addition to the one proposed at Ross; they want a bridge built from Stone avenue to the further side of the lake, thus avoiding the necessity of forcing traffic to go around a long bend to reach the Green Lake district.

Spokane, Wash.—City officials are speculating on the kind of paving that will be laid on Lincoln street, Fifth avenue to Seventh avenue, soon to be improved; plans for the proposed improvement between Fifth avenue and Seventh avenue were drawn by Engineer Otto A. Welle.

Tacoma, Wash.—Plans and specifications have been filed in the office of the Commissioner of Public Works for grading and paving with brick or asphalt in Local Improvement District No. 334; the estimate is \$29,549; also for paving with sandstone, District No. 406; estimate, \$13,833.

Plans are under way for a new boulevard to be built to what is known as the Narrows.

Appleton, Wis.—Plans are under discussion for a new highway from this place to Seymour, a distance of 22 miles, to be modern in every detail. Address W. O. Hotchkiss, Chief of the Highway Division of the State Geological Survey Department at Madison.

Fond du Lac, Wis.—The Board of Public Works has decided to pave South Main street from Eighth to Tenth streets, this to be 42 feet wide.

Racine, Wis.—The Board of Public Works will advertise for bids for paving with brick Lake avenue; a resolution was introduced in Council for paving Packard, and for paving with asphalt Main street, from 6th to 14th street. —P. H. Connolly, City Engineer.

SEWERAGE

Berkeley, Cal.—On the motion of Trustee Wm. J. Schmidt of the Town Board the Town Engineer was instructed to draw up plans for the construction of sewer extensions to deep water in West Berkeley.

El Centro, Cal.—Plans for a septic tank sewer have been prepared by Engineers Olmstead & Gillen, Wright & Callender Building, at Los Angeles; bonds for same will be voted on in September.

Haywood, Cal.—The question of constructing a storm sewer in Jackson street, and through the business portion of town, is under consideration.

San Francisco, Cal.—The Board of Health has called to the attention of the Board of Public Works the fact that the Academy Tract section is badly in need of a sewer system; the communication is accompanied by a map showing where a sewer should be laid in Alemany avenue to connect with other sewers to be laid in the different streets of the district; the city engineer has already recommended that an appropriation be made to acquire an outlet from the end of Alemany avenue to Islais creek, and it is expected that this recommendation will be adopted. The construction of the sewers proper will have to be met by a district assessment, but it is held that the city will be required to provide the outlet sewer. The section has built up very rapidly since the fire.

San Jose, Cal.—The town of East San Jose will hold an election upon the question of issuing bonds to the amount of \$50,000 for the construction of a sewer system; the sewer system proposed will sewer the entire town and estimates for same have been prepared by Town Engineer Curtis M. Barker, in consultation with Engineer Moore of Santa Clara.

Denver, Col.—A \$1,000,000 sanitary sewer will be constructed on the South Side, and bids will be received soon by the Board of Public Works; a boulevard will be constructed from 38th and Downing avenues to Brighton road.—John B. Hunter, City Engineer.

Plans for the sewer system in the Clayton Addition to the city have been completed by the City Engineer Department, and advertisements of the improvements will be issued at once; according to the estimates the cost of the sewer will be at \$18 a lot, while the total expenditure will amount to about \$75,000.

Danielson, Conn.—At the last borough meeting it was voted to build a sewer in Furnace and Franklin streets; Chas. S. Francis, C.E., has prepared plans.

New Haven, Conn.—A new sewage disposal plant is planned to cost about \$60,000.

Thompsonville, Conn.—The Sewer Commissioners will soon open bids for the construction of a sewer on Enfield, South Main, Central and Wallace streets, Young, Abbe and Bartley avenues; large amounts are available for this work.

Wallingford, Conn.—At special meeting it was voted to appropriate \$700 for the construction of a sewer in East Center street, from the property of Wm. Hodgette to a point opposite Long Hill road.

Willimantic, Conn.—A petition has been filed with Mayor Dunn and signed by E. F. Reed and other residents of Pleasant street, calling for a special meeting authorizing Council to appropriate \$2,000 for the construction of a sewer on Pleasant street from Bridge street, running east.

St. Augustine, Fla.—The property owners interested in the promotion of a sewerage system in North City held a meeting at which bids were received for laying the main along San Marco avenue, Locust street and other thoroughfares included in the proposed sewerage district; the contract will probably be awarded and work on the improvement commenced in a short time. About a dozen of the leading property owners in North City will finance the improvement. They will lay the mains along the streets designated and will then charge property owners in the neighborhood nominal sums for connections with the main sewer to assist with the general expense. In this manner a large portion of the city lying north of the City Gates will be supplied with complete sewerage and at very little expense to the individual property owners. In time it is to be hoped that the entire city will have similar sanitary arrangements, as many sections are already thus supplied.

Bloomington, Ind.—Council has ordered a sewer system built in this city at an estimated cost of \$110,000.

Ft. Wayne, Ind.—A Board of Public Works will open bids for a main sewer in Forest Park, and the improvement of Indiana avenue, from Cottage to Dayton, cement walks on both sides of Main street, from Harrison to the St. Mary's bridge, will be brought up for discussion; a resolution for cement walks on Sherman street will be up for confirmation.

Princeton, Ind.—Two hundred citizens recently thronged the City Council chamber relative to the \$70,000 proposed sanitary sewerage system, many desiring only information, others opposing the system and others lauding it and demanding that steps toward building it be taken at once; as there appeared to be a lack of information, it was decided to postpone action until September 21, in order that all might have a thorough understanding of the system. Mayor Cushman and the Council are united in the belief that an urgent necessity exists for the sewerage system, but many citizens think the burden will be too heavy.

Vincennes, Ind.—The Special Committee on Sewerage and the Committee on Ordinance to which was referred the request of the Board of Trade for the appropriation of \$1,750 for the purpose of employing an experienced engineer to prepare plans and specifications for a general sewerage, has been allowed further time in which to report. Address Mayor Greene.

Wabash, Ind.—The City Engineer will begin the work of making the profiles for the big combined storm water and sanitary sewer; lengths of the mains will be 20,000 feet, and the cost of this sewer will probably reach \$15,000.

Cedar Rapids, Ia.—Council has authorized the construction of sanitary sewers in fourteen blocks of the Eighth Ward.—C. H. Streeter, City Engineer.

Hampton, Ia.—Wallace Treichler, City Engineer, of Rock Island, Ill., has completed plans for the construction of a drainage system for Hampton, to cost about \$14,000.

Sioux City, Ia.—The City Clerk has been instructed to advertise for bids for the extension of the West Fourteenth street sewer; the estimated cost is \$6,705.

Emporia, Kan.—This city contemplates the construction of a reinforced concrete storm sewer, estimated to cost \$12,000.—George Mathewson, City Clerk.

Louisville, Ky.—City Engineer Victor W. Lyons is preparing plans for a large main sewer, of brick and concrete construction.

Baltimore, Md.—C. M. Hendrick, Chief Engineer of the Sewerage Commission, is preparing plans and specifications for sewer work to be let this fall which will cost \$1,250,000.

Ellicott City, Md.—The municipal authorities have decided to construct a concrete sewer on Main street.

Brighton, Mass.—Superintendent of Streets Guy C. Emerson will soon open bids for the construction of a sewer in Commonwealth avenue.

Ludlow, Mass.—The Board of Selectmen has voted to call a special town meeting for raising \$1,000 for sewer purposes; this sewer is to be constructed on the land of the Collins Mfg. Co., near the North Wilbraham line.

Detroit, Mich.—Council directed the Department of Public Works to advertise for proposals for constructing a public sewer on Campbell avenue; also for a vitrified crock lateral sewer through an alley.—J. J. Haarer, Commissioner.

Ionian, Mich.—The city will construct pipe sewer in Front street, to cost about \$2,000.

Nashville, Mich.—Plans will be put into effect by Council for a sewer system.

Sault Ste. Marie, Mich.—Bids will soon be advertised for the proposed sewer improvement in Eureka street; estimated cost, \$10,000.

Duluth, Minn.—A petition has been submitted to the Board of Public Works for a sanitary sewer on Vernon street for a distance of six blocks from Atlantic avenue to the outlet in Second street.

St. Paul, Minn.—An effort is to be made to provide more adequate sewer service in the Fifth, Seventh and Eleventh Wards. The proposition has been taken up by Aldermen Rohland, Corning and Otis, whose wards are most vitally interested, and it is their purpose to carry out the Jefferson avenue-Hamline avenue system. Because of the fact that the cost of this work would probably mount to fully \$100,000, it is improbable that the construction would all be done at once. It is the hope, however, to provide for a bond issue in the budget, which will cover the cost of installing a main sewer along the right of way of the St. Paul road, which property is exempt from assessment. At present portions of the three wards are absolutely without sewer service.

St. Paul, Minn.—The City Engineer has completed plans for a sewer to be erected on Colorado street, at an estimated cost of \$5,450, and for a sewer on Rose street, to cost \$994.

Englewood, Mo.—Petitions are being circulated by Dr. J. C. Jones, Dr. J. B. Cole and S. F. Conley trying to raise \$2,500 for the construction of two sewer mains.

Springfield, Mo.—Council has adopted plans for the construction of sewers in Sewer District No. 23, Section 2.

Butte, Mont.—Property owners on Galena

street, west of Emmet street, have petitioned the Mayor and Council for a sewer.

Perth Amboy, N. J.—City Engineer S. J. Mason said that, if property-owners along Smith, Sheridan and Grace streets will start petitions and circulate them at once, the new long-proposed Sheridan street sewer system may be finished and in working order by November; the Engineer stated that, until the property owners do this, the work will be held up, as should the city proceed to lay the sewer without first receiving petitions from the people, no bonds could be issued. A petition has been received from Goodwin street. The new sewer, as planned, will be half sanitary and half surface; it will be constructed of pipe ranging from 24 to 12 inches.

Plainfield, N. J.—The proposition to establish a trunk line sewer as suggested by Mayor Charles J. Fisk in his message to the Common Council, which was followed by the appointment of Councilmen R. I. Tolles, Duncan W. Taylor, Charles C. Randolph and Frederick E. Mygatt as a special commission to take the matter up with the various towns in the vicinity of Plainfield, has taken definite shape and substantial progress has been made. The Commission has communicated with the governing bodies of near-by towns, including Fanwood, Scotch Plains, North Plainfield, Dunellen, Bound Brook, Raritan, Somerville and New Brunswick for the purpose of arranging for conferences, the idea being to establish a trunk sewer that would cover these towns.

Westfield, N. J.—An ordinance, No. 177, was passed by Council to construct a sanitary sewer and appurtenances in and along Euclid avenue in the County of Union; this will extend 50 feet southeast of Kimball avenue.—Augustus L. Alpers, Mayor; Lloyd Thompson, Town Clerk.

Auburn, N. Y.—The question of new sewage disposal plant in the Seventh Ward is now being discussed. Alderman Magler is interested.

College Point, L. I., N. Y.—At a recent meeting of Borough President Lawrence Gresser and Sewer Commissioner John J. Halleran, the erection of a new sewer disposal plant was discussed.

Hamburg, N. Y.—Plans have been completed and are approved for the proposed new sewerage system for this place; nothing further is as yet known.

Jamestown, N. Y.—The Board of Health has started to purify the Chadakoin River by ordering the property owners near Main street to abandon their private sewers emptying into the river, and to connect with the city sewer system; an effort will also be made to clean the outlet through its entire course, from Warner's dam to a point far eastward of the business section.

Long Island City, N. Y.—Consulting Engineers Rudolph Hering and Geo. A. Fuller, 170 Broadway, New York City, are preparing plans for a small sewage disposal plant at the State Insane Hospital, Kings Park, Long Island City.

North Pelham, N. Y.—The construction of a sewer system for the village of North Pelham has been approved by State Commissioner of Health Eugene S. Porter, same having been turned over to the Village Trustees.

Pelham, N. Y.—Consulting Engineer Harold B. Roberts, Pelham Heights, has been retained to prepare plans for a sewer system for the town of North Pelham; plans have been approved by the State Health Commissioner and bids will soon be called for.—Kneeland S. Durham, Chairman Sewer Commission.

Rockaway, N. Y.—The Rockaway Beach Taxpayers' Association will hold a meeting on Sept. 14 to discuss the proposed installation of a new sewer system.

Walton, N. Y.—At a meeting of the Village and Health Boards Health Commissioner Eugene P. Porter urged the installation of a sewerage system in the village of Deposit; ground will be looked over and active steps will be taken for the installation of same.

Whitehall, N. Y.—Saunders street has been greatly improved by the construction of a sewer in that thoroughfare.

Grand Forks, N. D.—The Ordinance Committee has introduced and recommended for passage an ordinance entitled an ordinance that the boundaries of the second sewer district of this city be, and the same are hereby established as follows, to wit: Commencing at the Red River of the North, where Bruce avenue if extended as now laid out in an easterly direction would intersect the same; thence westerly to Bruce avenue and following Bruce avenue to Fifth street; thence along the alley northeasterly from First avenue to a point where such alley intersects First avenue; thence westerly along First avenue to a point where Ninth street, if extended as now laid out, if extended southeasterly would intersect said First avenue; thence northerly along Ninth street to In-

ternational avenue; thence following International avenue to the Red River of the North. It passed first reading and the ordinance heretofore passed establishing the boundaries of the Second Sewer District was repealed.—R. B. Griffith, Chairman Ordinance Committee.

Dayton, O.—City Engineer Cellarius has begun to prepare plans for the erection of a sewer pumping station in North Dayton; he has not yet figured on the estimated cost of this improvement, but he says it will be less than \$15,000. The money for this plant has already been provided for. When Council issued \$89,000 worth of bonds for storm water sewer purposes, Councilman Zehnder of the Third Ward took his portion of this sum for the pumping station instead of for storm water sewers.

Gallion, O.—Council has approved ordinance No. 695 for the construction of a sewer disposal plant and the trunk line sewer commencing at a point along Whetstone Creek, in the northeast corner of Section 1, in Polk Township, Crawford County, O., thence to said creek to the west end of Cherry street, along State road and West Main street.—A. H. L. Laughbaum, President of Council; Fert M. Mount, Clerk.

Lorain, O.—An ordinance has passed Council for the issuance of \$26,000 bonds for the construction of sewers in Oberlin, Hoyt and Alten streets.

Oberlin, O.—Bids will be received Sept. 12 for the purchase of \$11,000 4½ per cent. sewer bonds.—Harry T. Marsh, Village Clerk.

Piqua, O.—The city will construct storm sewers in East Piqua this fall at an estimated cost of \$10,000.—H. E. Whitlock, City Engineer.

Youngstown, O.—Resolution has been passed by Council to construct a sewer in Belmont avenue, from Emerson place to Bismark avenue.—M. C. Higgins, President of Council; M. F. Hyland, Clerk.

Tulsa, Okla.—The citizens voted to issue \$30,000 bonds for extension of storm and sanitary sewers; bids for the bonds will be received about Sept. 20; several small sewer contracts will be let.—T. C. Hughes, City Engineer; O. P. Jones, City Clerk.

Butler, Pa.—Engineer Ross, who has been at work on the preparation of plans for the local sewage disposal plant, will have plans ready to submit to Council about the 15th. The plans will provide for the use of septic tank, for which Council will probably have to pay a royalty to the Cameron Company, which owns the patent for the device, and which asks 10 per cent. of the cost of a disposal tank for the right to use the tank.

Camp Hill, Pa.—The Borough Council has authorized Commissioner Smith to place sewers at Heyd, Market street, one at Market street and Cemetery lane, and one at Willow lane and Market street.

Canonsburg, Pa.—The plans for a combined sewage disposal plant for Canonsburg and South Canonsburg, prepared by R. Winthrop Pratt, of Columbus, O., have been approved by the State Board of Health; construction will probably not start before next Spring.

Harrisburg, Pa.—Permission has been granted the borough of Youngwood to construct some small sewers near the town.

Lebanon, Pa.—Sewage disposal for this city is being discussed.—Address City Engineer.

Pottstown, Pa.—Burgess Hiram Collier has received notice from Dr. Dixon of the State Board of Health, demanding that the borough be equipped with an adequate sewage disposal plant.

Scranton, Pa.—It has been proposed to erect new sewage disposal plant in the Sixth Ward.—A. C. Acker, Director of Public Works, can be addressed.

Swarthmore, Pa.—Commissioner Dixon has issued a notice to the borough of Swarthmore, Delaware County, to provide for sewage disposal. The borough is directed to prepare the plans at once, either alone or in conjunction with the town of Ridley Park along the Delaware. The two places have the same outlet of sewage as it flows into the Delaware a short distance above the place where the intake of the Chester City water supply is located. The Swarthmore drainage area is entirely distinct from that known as the Cobb's and Darby Creek territory.

Williamsport, Pa.—The question of a new sewage disposal plant is being agitated.

Knoxville, Tenn.—Alderman Murphy has had passed on third and final reading an ordinance appropriating \$2,500 for laterals and sewers.

Nashville, Tenn.—Town Council has appropriated \$3,600 for building a trunk sewer from the river in South Fifth street.

Dalhart, Tex.—All bids were rejected for constructing sanitary sewers; will be re-advertised.—W. D. Wagner, Mayor.

El Paso, Tex.—The city has obtained estimate of \$25,000 on construction of proposed storm sewer on Arizona street.—E. T. Todd, City Engineer.

Wichita Falls, Tex.—The city has called election to vote on issuance of \$12,000 additional bonds for sewer construction.

Seattle, Wash.—At a meeting of the Rainier Valley Improvement Association at Rainier Beach, it was proposed to issue \$1,500,000 of bonds, with which to construct a trunk sewer system for the Rainier Valley.—D. W. McMorris, Assistant City Engineer.

Seattle, Wash.—Council has passed ordinances providing for sewers as follows: West Fifty-sixth street, cost \$4,000; Lane street, \$4,800; West Sixtieth street, \$12,900; East Boston street, \$17,500, and Judkins street, \$11,400.

Tacoma, Wash.—Plans and specifications have been filed in the office of the Commissioner of Public Works for the construction of sanitary sewers in Local Improvement District No. 175; estimate, \$13,978; also for sanitary sewers in District No. 177; estimate, \$7,226.24. Council has passed ordinances presented by Mr. Creager providing for the construction of sanitary sewers on Union avenue and other streets in District No. 179.

Wheeling, W. Va.—The Board of Public Works has commenced work in putting in a large sewer at the foot of Twenty-third street; this will be 200 feet in length, extending from the property line to the river.

Iola, Wis.—The city will construct a sanitary sewer, including 800 feet vitrified tile sewer, septic tank, disposal plant.—J. C. Lang is interested.

Neenah, Wis.—The Board of Public Works has decided to recommend to Council the following sewer work: South sewer extension, to be 20-inch cast-iron pipe; Lincoln street, sewer extension of 20-inch cast-iron pipe, and Clark street, to be 30-inch vitrified brick.

WATER SUPPLY

Mesa, Ariz.—Bids will be received about Nov. 1 for the construction of water works, to cost about \$50,000.—L. G. Knipe, Engineer, Phoenix.

Oakland, Cal.—The Board of Public Works has accepted plans for the building in which it is proposed to house the salt water pumping plant to be installed at Lake Merritt, and the Secretary was instructed to advertise for bids for its construction. The building is to be a Class A structure of steel and concrete and will be of unusually ornamental design. It will contain a lavatory and observation room with outside porches for the use of the public. The grounds will be placed in charge of a professional gardener and so improved as to be in harmony with surrounding property.

Redwood City, Cal.—A special election held here to-day resulted in the carrying of the \$20,000 bond issue for extending the water system into the Dingee Park and outlying residence sections by a vote of 273 to 29. A proposition for a \$10,000 bond issue for the extension of Phelps street was defeated by a narrow margin; also issue of \$10,000 for building a Town Hall.

Sacramento, Cal.—Trustee Carragher has laid before the Board of Health the plans and specifications prepared by City Engineer Randle for a filtration plant and submitted to its inspection the plans which were received from four bidders about a year ago; each bid fell short of the plans and specifications, and only one, the Roberts plan, approximated the requirements; the bid was \$589,000. Trustee Carragher recommended the rejection of them all; it is proposed that the filtration plant should be located on a site of about fourteen acres between Slater's addition and the mouth of the American River. In order to make demonstrations practicable, the Board, on calling for bids, set aside two premiums of \$1,200 and \$800, respectively, to go to the successful bidder and to the second bidder to defray their expenses in showing off their methods of purifying water.

Canon City, Col.—Canon City has been granted permission by the Rio Grande Railway to lay water pipes along the railroad's right of way through the Royal Gorge.

Colorado Springs, Col.—The Citizens' Water and Power Company of Wyoming, projected to do business in that State and in Teller and El Paso Counties, has been incorporated in Cheyenne by G. A. Taff, G. M. McMahon and R. L. Holland, of this city; capital, \$1,000,000.

Norwich, Conn.—A 4-inch water main is being put in on Nelson place, which will be connected with the main in Cahoon street, making a complete circuit; a new improved two-way hydrant will also be installed.

Pensacola, Fla.—Active preparations to improve the water system which was recently acquired by the city are being made, and it is expected that excavations will be made for laying new water mains.

Brunswick, Ga.—The question of issuing \$175,000 bonds for establishing a municipal water system will be submitted to a vote of the people.—Address B. T. Mann, Alderman.

Carrollton, Ill.—The Greene County bridge

at Athensville collapsed under a traction engine.—Address Greene County Auditor.

Decatur, Ill.—Council has decided to expend \$21,000 in improving water system.

Joliet, Ill.—Council has ordered that Hunter avenue, from Morgan street to McDonough street, be improved by constructing therein a water main with service pipes and manholes, the cost to be paid by special assessment; final hearing of the work will be had September 14.—A. D. J. B. Hount, Commissioner.

Peoria, Ill.—Mayor Schnellbacher and members of Council will discuss plans for water works; nothing final was decided upon.

Rock Island, Ill.—Wallace Treichler, City Engineer, has been authorized to prepare plans and specifications for filters and settling basins for the city water supply.

Mishawaka, Ind.—Mayor Charles Frank is in favor of pure water for the city of Mishawaka, to be pumped through the mains of the city, and he does not want the city to spend any more money than necessary in improving the present system, believing that it should save every cent to go toward the installation of a pure water system; sufficient water of a very good quality should be secured at the foot of the hills south at a depth of 25 feet, and run into wells or reservoirs and run to the present station by means of gravitation or pumped from a water works erected near the wells.

Council Bluffs, Ia.—Concluding, from its analysis of the city's financial condition and the figures it presents on the probable cost of constructing and operating a municipal water plant, that the city is not at present in condition to build and operate a new plant adequate to present or future needs, and that, in addition to the limited resources of the city, the city should not attempt to purchase the present plant, as the water company is not in condition to contract a sale of its plant except subject to the lien of a bonded indebtedness largely exceeding the appraised value of the plant, the special committee of citizens appointed two months ago by Mayor Maloney to investigate the water situation, in its report recommends the granting of a new charter to the present company under conditions which shall insure extension of service, better fire protection, and protection of the rights of the city, including the right to purchase the plant at its actual value, free from any indebtedness of the company. The report was placed on file. The members of the committee signing the report are William Groneweg, J. K. Cooper, J. J. Stewart, A. C. Graham and F. J. Pierce.

Cottonwood Falls, Kan.—State School Fund Commission has purchased the bonds of the city for the construction of the water works system, this notice being received by City Mayor R. O. Miner; work on this system will commence in about four weeks.

Ellinwood, Kan.—Engineer W. K. Palmer, Dwight Building, Kansas City, Mo., is preparing plans for a water works and electric light plant for the city, to cost \$40,000.—J. Sprinker, Mayor.

St. Marys, Kan.—The citizens have voted \$47,000 bonds for the construction of water works—Engineers, Burns & McDonnell, Scarritt Building, Kansas City, Mo.; Henry B. Mees, City Clerk.

Barbourville, Ky.—A new water works plant is to be established at a cost of \$20,000 and the city of Lexington is to share the expense; the entire town will be piped and the necessary provisions against fire will be made. John A. Geary, of Lexington, has the plans for the new plant, and in less than six months the work of the construction will be under way. A stock company will be organized and all the details of piping and locating the reservoir have been mapped out. The river at that point will be the source of supply, and the main reservoir will be on a high hill near the city; no standpipe will be necessary; the entire town will be piped, the necessary provisions against fire will be made, and all private consumers will be adequately accommodated. C. D. Chenault, of the Lexington Banking and Trust Company, Lexington, is interested.

Bellevue, Ky.—Council has awarded the contract for the water franchise to James C. Ernst and associates, his bid being considered the lowest. Councilmen Geiger and Anderson voted against the motion. A majority report of the Law, License and Contract Committee had previously been adopted sustaining the legality of both the Ernst and Ellerhorst bids. Councilman Geiger submitted a minority report, contending the bids were illegal. He further contended that the citizens should be allowed to vote on the proposition to lay a municipal water-piping system, and also on annexation to Newport. His report was voted down by the usual vote, as was also his two amendments to the motion to award the contract. The first amendment was that a sufficient volume of water should be afforded to throw 3-inch streams from six nozzles simultaneously.

and, second, should the Newport water rates increase the rates in Bellevue would not increase, but should the Newport rates be reduced the rates here would be correspondingly reduced.

Winfield, La.—Council will purchase two pumps, one air compressor, 8,000 feet of cast-iron water pipe, etc.—J. D. Pace, Mayor.

Baltimore, Md.—D. P. Banks, engineer in charge of the construction of the pipe-line system to be operated in connection with the Fire Department, has decided that it would be for the best interests of the city to erect the pumping station on the end of Pier 4 and will advocate this site before Mayor Mahool, the Fire Board and the Harbor Board. Mr. Banks is now at work on plans for building the pipe line system, but believes that it will take about four months to complete them. He hopes to have everything in readiness in order to begin construction work in the early spring.

Govans, Md.—A delegation representing the Govans Improvement Association went to Avalon recently to view the filtration plant of the Baltimore County Water and Electric Company, as there has been much complaint at Govans recently owing to the discoloration of the water furnished that town. Vice-President and General Manager A. H. Wehr met the delegation and showed its members through the plant. The delegation consisted of President Charles Herzog of the Improvement Association, J. P. Griffin, Henry S. Randall, George W. Henderson, Rev. William J. Nicoll, J. Irving Nagle and Samuel Register.

Holyoke, Mass.—The Water Commissioners are planning to enlarge the Buttery Brook reservoir, a good amount of work having already been done toward increasing the size of the basin.

Lynn, Mass.—The Finance Committee has now under consideration the question of appropriating \$10,000 for the engineering work for development of the harbor by reclaiming about 300 acres of mud flats.—J. W. Atturel, City Clerk.

North Springfield, Mass.—The Water Board is considering the matter of replacing the cement pipe in different streets of the town.—F. A. Barbour, Consulting Engineer.

Big Rapids, Mich.—It was decided by a big majority to issue bonds for water works improvements; plans and specifications have been made; bids are being advertised for.—Barney Laser, City Clerk.

Detroit, Mich.—Smith, Hinchman & Grylls, architects, Washington arcade, have completed and presented to the Water Commissioners plans for a new pumping station to be erected in Water Works Park.

Hancock, Mich.—Estimates are being prepared for expending \$50,000 for improving water system.

Houghton, Mich.—The Water Commissioners have directed the water consumers to install meters.—Address Clerk of the Water Board.

Hubbell, Mich.—The Village Council will probably soon ask for bids for pipe for the proposed new water works.

Negaunee, Mich.—It is proposed to lay about one mile of 4-inch pipe.

Bemidji, Minn.—Bids will be received Sept. 21 for the purchase of \$60,000 water works bonds.

Hibbing, Minn.—Compressed air may be used in the water system of the town in forcing the supply from the city wells; it is claimed water can be raised to the tank in Hibbing for 2 cents per 1,000 gallons; the pumping system costs more than 5 cents per 1,000 gallons.

Jackson, Miss.—The City Engineer has been directed to advertise for bids for the purchase of a steel pipe, fire hydrants and a new pump and boiler for the pumping station; estimated cost of improvements, \$145,000.—Hamilton Johnson, City Engineer.

Carthage, Mo.—The Empire Electric Power and Supply Company, R. J. Chaffin, secretary, has purchased and will develop water power properties near Carthage; will construct three-phase transmission line to supply electricity and install water wheels and alternators.

Crofton, Neb.—The city has voted to issue bonds in the sum of \$10,000 for the construction of water works.

Gothenberg, Neb.—The city has voted \$28,000 bonds for water works and \$7,000 for sewerage.

Lincoln, Neb.—Council is discussing the matter of the proposed resolution for the building of a new reservoir at the Mockett station; this new reservoir will cost \$17,500 and would be of great service to the city.

Valentine, Neb.—The proposition to issue \$18,000 water works bonds carried.

Canajoharie, N. Y.—A new water system is to be established, to cost \$75,000.

Cohoes, N. Y.—George T. Bolton, City Engineer, is preparing plans for a quantity of water main extensions in connection with the new filtration plant which is to be constructed. Bids will soon be called for by the Water Works Commissioners for the follow-

ing quantities of cast-iron pipe: 2,500 linear feet of 30-inch cast-iron pipe and about 2,500 linear feet of 24-inch cast-iron pipe.

Delhi, N. Y.—Superintendent Middlemist with a force of men, is engaged in putting in a 12-inch pipe in Spring Lake for the purpose of increasing the village water supply; this will require about 150 feet of this pipe, 100 of which has been laid.

Delta, N. Y.—Plans are about completed at the State Engineer's office at Albany for the construction of two reservoirs for canal water supply, one to be constructed at Delta and the other at Hinckley.

Marcellus, N. Y.—Farrington and Bowman, of Marcellus, are preparing plans for water works, to cost about \$20,000.—F. W. Knapp, City Clerk.

Syracuse, N. Y.—After a close competition between a number of New York, Boston and up-state banks and investment houses, Comptroller Richard J. Shanahan has found a satisfactory market for the first half of the city's million-dollar Skaneateles Lake conduit bond issue. The successful bidder, H. L. Crawford & Co. of New York, was awarded the entire \$500,000, bearing interest at the rate of 4½ per cent. per annum. Their bid was \$518,910, giving the city a premium of nearly \$20,000 and thereby reducing the actual interest rate to 4-100 per cent.

Warwick, N. Y.—A new reservoir is to be built in this city, the award going to the First National Bank, whose bid was \$24,328.90 for 4½ per cent. bonds.

Webster, N. Y.—The citizens have voted to expend \$300 for surveys for a water supply.

West Seneca, N. Y.—It is most likely the plan of the Town Board to enter into agreement to build a water supply system in conjunction with Hamburg and Blasdell will be quietly laid aside until West Seneca has money with which to enter into the project; in the interim the town officers are awaiting some definite action toward effecting an understanding with the Depew & Lake Erie Water Company, which continues to supply the fire hydrants, although its contract with the town has expired and the Town Board has not entered into a new one.

Wolcott, N. Y.—Rochester capitalists are now in Wolcott consulting with O. M. Curtis with regard to the construction of water works; Mr. Curtis was granted franchise for water works here about three years ago, but nothing definite has yet been done.

Mooreville, N. C.—Specifications are being prepared for a \$25,000 water system.

North Wilkesboro, N. C.—J. B. McCrary & Co., of Atlanta, Ga., are making surveys for the construction of water works.—Oscar C. Dancy, Mayor.

Grand Forks, N. D.—The report of the City Auditor stating that the resolutions declaring necessary the construction of a water main on Third street, from International avenue to lone avenue, having been published the required length of time and no protests filed, the Auditor has been instructed to advertise for bids. The City Engineer's plans, specifications and estimates of cost for the construction of a water main on DeMers avenue, from Sixth street to Seventh street, were approved.

Bids for the construction of water mains on Third street and North Third street, from L'Hiver avenue to north side of Skidmore addition; Fourth street, from Lula avenue to north side of Skidmore addition, presented by J. M. Carroll, Pastoret & Lunz, P. McDonnell, Northern Construction and Engineering Company, and B. O. Paulsness; the bid of P. McDonnell, the low bidder for the Third street and North Third street water mains was accepted. Pastoret & Lunz, the low bidder for the Fourth street water main, received contract. The contract for the paving of Paving District No. 8 has been awarded to P. McDonnell for creosote block on concrete base, he being the lowest bidder.

La Moure, N. D.—The city will construct water works, consisting of a system of water mains fed by artesian wells, at a cost estimated at \$28,000.

Washburn, N. D.—The city has in contemplation the construction of water works, and is now corresponding with engineers to make plans and specifications.—Theo. Serr, City Auditor.

Conway, Pa.—Jas. P. Leaf, of Rochester, is preparing plans for water works, to cost about \$20,000.—Frank S. Brown, Borough Secretary.

Girard, O.—An ordinance submitting a call for an election on the water works proposition between the village and H. R. Fothergill for Sept. 29 has passed.

Edmond, Okla.—Bids will be received Sept. 21 for the purchase of \$45,000 5 per cent 25-year water works bonds.—W. D. Week, City Clerk.

Bids will be received until Sept. 21 by the City Clerk for \$45,000 water works bonds.

Enid, Okla.—Council has directed estimates to be prepared for water and sewer system.

Hugo, Okla.—Bids will probably soon be asked by the city for the construction of

water works, for which \$150,000 of bonds were voted; the plant will consist of pumping station, about 15 miles of mains, 60 fire plugs and a 2,000,000-gallon reservoir.—Hiram Philips, St. Louis, Mo., Consulting Engineer.

Tulsa, Okla.—All bids were rejected for constructing the clarification basin, and T. C. Hughes, City Engineer, was instructed to revise the plans and specifications.—O. P. Jones, City Clerk.

Joseph, Ore.—An election will probably soon be held to vote on the question of constructing water works, to cost about \$12,500.—Colon R. Eberhard, City Recorder.

Pendleton, Ore.—Frank C. Kelsey, of Portland, is preparing preliminary surveys and estimates for the construction of a gravity system of water works.—T. Fitzgerald, City Recorder.

Sumpter, Ore.—M. H. Allen, City Treasurer of Sumpter, has petitioned the city for a right-of-way for a water ditch through the town.

Harrisburg, Pa.—The State Water Supply Commission has approved the applications for charters of the Biglerville Water Company, Adams County, and the Yeagertown Water Supply Company, Mifflin County.

McKeesport, Pa.—The Water Commissioners, Mayor W. H. Coleman and City Councils plan for the immediate completion of the water works filtration plant, as a bond issue is to be made for \$30,000, aside from the \$15,000 which has already been provided for, for the completion of the plant.—Alexander Potter, Consulting Engineer.

New Cumberland, Pa.—The Riverton Consolidated Water Company has notified the State Department of Health that it has taken steps to comply with its requirements in regard to safeguarding its mountain water supply; the reservoirs will be thoroughly cleaned and a better supply given New Cumberland. The occupants of houses on the watershed have been warned off, the properties being vacated, while a pipe has been laid and all drainage from the pasture fields sent through a bypass.

As attorney for Harrisburg capitalists, Alfred J. Feight, of this place, has asked A. G. Richwine, manager of the Riverton Consolidated Water Company, for an option on the company's holdings in this vicinity.

Pittsburg, Pa.—State Health Commissioner Samuel G. Dixon has notified the city to proceed at once with the construction of ten additional filter beds at the Aspinwall plant to supply pure water to the North Side.—George W. Guthrie, Mayor.

Reading, Pa.—Proposals will be received by the Board of Water Commissioners September 22, before 7.30 p. m., for constructing slow sand filters for the Maiden Creek Water Supply. The principal items of work are approximately as follows: 115,000 cubic yards of excavation, 15,600 cubic yards of concrete, 5,050 cubic yards of graded sizes of broken stone for underdrains, placing 21,850 cubic yards of filtering sand, 1,600 cubic yards of rubble masonry, 6,400 square yards of roadway, 17,500 square yards of sodding, 15,655 feet of vitrified pipe, 1,220 feet of 60-inch reinforced concrete conduit and filter house.—Edward Elbert, President; Lincoln S. Ramsey, Secretary.

Aiken, S. C.—The Solomon-Norcross Company, of Atlanta, Ga., is preparing plans for water works for Aiken.

The Solomon-Norcross Company, 1622 Chandler Building, Atlanta, Ga., has been directed to prepare estimates for water system.

Spartanburg, S. C.—Bids will be received September 28 for the purchase of \$230,000 4 per cent, 20 to 40-year water works bonds.—J. T. Hudson, City Clerk.

Colton, S. D.—The Town Council has been authorized to issue \$8,000 bonds for the construction of a municipal system of water works; work will start as soon as preliminaries can be arranged.

Mobridge, S. D.—The city has voted to install a water works system; work will be started within a very short time.

Jellico, Tenn.—The city is now ready to grant a franchise for water works.—S. B. Snyder, Mayor.

Austin, Tex.—A plan for rebuilding the dam is for the city to use State convicts supplied by the Penitentiary Board for the labor and the city buy the material.

Greenville, Tex.—John W. Maxcy, of Houston, has been selected by the city to develop a water supply and to design the extension of the water mains; total cost of work contemplated, \$67,000, for which bonds have been issued.

Temple, Tex.—The Board of Water Commissioners will enlarge and overhaul the water system; the water mains will be extended and an independent pumping station placed at the reservoir; other improvements will be made; about \$35,000 will be expended.—Address Clerk of the Water Board.

Vernon, Tex.—Estimates are being prepared for \$40,000 water system.

The question of issuing \$10,000 water bonds carried.

Lehi, Utah.—Estimates have been prepared for water supply; the water supply will be brought seven miles in a pipe; estimated cost, \$40,000.

Salt Lake City, Utah.—The State Board of Insanity will expend \$20,000 to provide water supply for the Hospital for the Insane.

Lynchburg, Va.—The Southern Machinery and Equipment Company will purchase water meters.

Norfolk, Va.—Work will begin laying of a new 6-inch water pipe line on Graydon avenue, from Colonial avenue to Manteo street; an appropriation of \$1,593.75 is available for the work; work is under the direction of Chief Clerk Reid of the Water Department.

Woodstock, Vt.—The Woodstock Aqueduct Company will build a new reservoir at the Abbott place, above West Woodstock; this will be entirely of concrete, 200 feet long and 25 feet high.

Monroe, Wis.—Council has decided to purchase new engine, boiler and pumps; also extend the water mains.

Council will purchase new engine, new pump, boiler and extend water mains.

Latah, Wash.—Engineer McIntyre, of Spokane, has prepared preliminary plans for water works for Latah.

Seattle, Wash.—Council has passed ordinances providing for water main extensions on Seventeenth avenue, South, to cost \$24,800; Boren avenue, North, \$13,800; Eighth avenue, South, \$64,800; Graham avenue, \$6,400; Seventh avenue, North, \$5,600; Twenty-third avenue, South, \$8,300; Twenty-fourth avenue, \$12,225; Fourth avenue, South, \$42,100; Twelfth avenue, West, \$5,900, and Boyer avenue, \$8,200.

Spokane, Wash.—At a recent meeting of the Water Commissioners, which includes Mayor Moore and City Engineer Ralston, it was decided that the water supply for the next two years will be secured from the up-river underground well, at which additional pumps will be installed to increase the supply by 10,000,000 gallons daily.

Winlock, Wash.—H. W. Aller, of Chehalis, is preparing plans for water works, to cost about \$10,000.—C. E. Lemard, City Clerk.

Ottawa, Ont., Can.—It is proposed to petition the Ontario Railway and Municipal Board for permission to issue \$50,000 bonds for improvement and extension of the water works.

LIGHTING AND ELECTRICITY

Gurley, Ala.—F. A. Howe, Jr., Huntsville, will establish at Gurley an electric plant, capacity to be 200 lights and probably increased in future to 500 lights. Gasoline engine and 220-volt direct-current engine will be used.

Linden, Ala.—J. A. Johnson and O. A. Johnson are interested in the construction of an electric light plant.

Fresno, Cal.—Bids will be called for in about one month by Mickey Ryan, City Clerk, for an electrolytic light system for the streets, to cost \$50,000.—George L. Hoxie, City Engineer.

Los Angeles, Cal.—Henry E. Huntington, W. G. Kerckhoff and the Pacific Light and Power Company have purchased the City Gas Company, the new corporation which entered the field in competition against the Los Angeles Gas and Electric Company about a year ago; the price paid is said to be \$1,350,000 and the transfer is to be made October 1.

Oakland, Cal.—The Board of Works has issued a permit to the Oakland Gas, Light and Heat Company to construct a \$35,000 building, which will contain the new turbine engines, burning crude oil, and new auxiliary electric plant, which will be used when heavy loads are carried or in case of emergency; other improvements are contemplated by the company, including new mains, the establishment of more electric lines, etc.

Denver, Col.—The Northern Colorado Power Company is preparing to issue \$6,000,000; half of this issue will be used to retire the \$3,000,000 worth of bonds now outstanding and the other \$3,000,000 will be available for the extensions and improvements in the present equipment; it is understood that the Northern Colorado Power Company intends to extend its lines to a large number of towns in the northern part of the State and it is not improbable that the enormous power which the plants of the corporation are capable of developing may be used to electrify the Colorado & Southern Railroad up to Fort Collins.

Elberton, Ga.—The city electric light plant has been destroyed by fire.—Address City Clerk.

Macon, Ga.—Council is arranging to install electric light and water plants.—J. W. Wilcox, City Engineer.

Sylvester, Ga.—Bids will be received, September 15, for the purchase of \$20,000 5 per cent. 30-year light and water bonds.

Tybee (Fort Screven post-office), Ga.—The Town Council is considering the question of installing a municipal electric light plant, and will take steps to secure estimates of the cost.—Robert P. Lovell, Mayor.

Chatsworth, Ill.—L. A. Walter, owner of the Chatsworth electric light plant, purchased the Piper City electric light plant and will consolidate the two plants, making Chatsworth the power station for the two towns.

Forreston, Ill.—Geo. M. Crombie, owner of the local electric light plant, will install a new 35-kw. 2,200-volt, 60-cycle generator with transformer, to increase the voltage to 6,600 to furnish electricity for lamps and motors in Adeline, Ill., five miles from here.

Sandwich, Ill.—The Sandwich Electric Company, with \$75,000 capital, has been incorporated to handle electrical apparatus.—S. F. Sedgwick, E. F. Ledoyt, and others, incorporators.

Crawfordsville, Ind.—The Pleasant Shades Power Company has been incorporated for the purpose of constructing dams and reservoirs for power and light purposes.—Henry Vancleave and M. M. and I. E. Ewers, Directors.

Darlington, Ind.—The citizens have voted to enlarge the municipal electric light plant.

Goshen, Ind.—The Water Works and Light Committee has been instructed to prepare plans for a new arc light system; the new equipment will include a 600-horsepower engine, a 500-kw. generator, three 73 transformers, a switchboard and 150 arc lights of the inclosed pattern.

Logansport, Ind.—Plans and specifications for a municipal electric light plant have been submitted to the Board of Public Works by Prof. J. Walter Esterline, of Purdue University. The plans provide for the installation of a 500-kw. 60-cycle turbo generator and also a 150-kw. generator, which will be belted to a Buckeye engine. The city arc lights are to be changed and a smokestack is to be erected. More water power is to be used than heretofore and, according to plans, there will be an annual saving of \$9,000 in coal and \$960 in arc light bills, besides an increase in power from 600 to 700 kw. The City Council has appropriated \$38,000, the estimated cost of the plant, and Prof. Esterline has been engaged to supervise the purchase and installation of the new equipment.

Morgantown, Ind.—The Morgantown Light and Power Company, recently incorporated, will construct and equip a plant.—William T. Gibson, Jesse H. Deer and W. W. Davis, Directors.

Atlantic, Ia.—The Atlantic Gas and Fuel Company has again changed hands, J. A. McWald selling the plant and stock of the company to F. A. Kidder, of Red Oak; \$15,000 will be spent in remodeling the system.

Ellinwood, Kan.—Engineer W. K. Palmer, Kansas City, is preparing plans for an electric light plant for the city.

St. Marys, Kan.—The citizens voted to issue \$15,000 bonds for the construction of an electric light plant.—Engineers, Burns & McDonnell, of Kansas City, Mo. Henry Mees, City Clerk.

Lexington, Ky.—The Kentucky Water, Heating and Illuminating Company, of this city, has been declared the successful bidder for the newly-created electric lighting franchise, offering \$6,100, which bid was accepted by Mayor Skain, subject to the approval of the General Council. Mr. Joseph P. McWilliams, who, it is understood, represented a number of local capitalists, was a contending bidder, but dropped out at \$6,000. The Lexington R'way Co., through its attorney, Samuel M. Wilson, made a bid in the early part of the proceedings, but Mayor Skain declared that under his instruction from the Council he was not permitted to accept any bids from the railway company. J. M. Roach, who did the bidding for the successful company, said: "We will comply with every requirement of the ordinance and will be ready to bid on the light contract at the first of the year. No site has been selected, but arrangements necessary to the immediate establishment of the plant will be made."

Rangeley, Me.—The Rangeley Light and Power Company contemplates doubling the capacity of its plant during the coming year; the improvements will cost about \$50,000.—D. D. Elliott, President.

Salisbury, Md.—Council has passed an ordinance requiring that all telephone, telegraph and electric light wires be placed underground.

Andover, Mass.—The Lawrence Gas Company, Lawrence, contemplates installing an electric lighting system in Andover.—N. H. Emmons, President.

Tyngsboro, Mass.—The town is clamoring for electric lights and the proposition to light the town has been put up to the Lowell Electric Light Company. The scheme suggests that the company extend its wires from the Vesper Country Club at Tyngs Island to Tyngsboro.

Grand Rapids, Mich.—General Manager Freshney is arranging the preliminaries for the transfer of the Lighting Department to the pumping station and the installation of sufficient machinery to give to Grand Rapids all the street lights demanded.

Benbow (R. F. D. Ewing), Mo.—The Benbow City Light, Power and Heat Company has secured a twenty-year franchise to op-

erate in that village by the Village Board of Benbow City, the company will light the village, furnish power and operate a hot-water heating plant; a \$60,000 plant will be installed.

St. Joseph, Mo.—It was decided to issue \$15,000 of bonds for electric light purposes.—Geo. F. Barnes, Secretary, Board of Public Works.

Lincoln, Neb.—The Lincoln Railway and Light Company, through its President, W. H. Schott, and Secretary, Charles R. Scott, has filed with City Clerk Barrow a written acceptance of the terms and conditions of the franchise ordinance recently passed by Council; the company is given certain privileges and rights to lay, operate and maintain a system of pipes in streets, avenues, alleys and public places in the city of Lincoln for conveying and furnishing steam or hot water for heating and other purposes to the city and inhabitants.

Bellevue, N. Y.—On motion of Councilman Fuss the City Attorney has been instructed to draft ordinances providing for the sale of artificial and natural gas franchises.

Nutley, N. J.—The Franchise Committee has decided to see if some means cannot be provided for supplying electric light service to those who want it.—Address Councilman Carr.

Perth Amboy, N. J.—Mr. O'Connor has offered in Council a motion that there be a committee appointed to ascertain what the light company would sell their plant for to the city; he stated that he had been in consultation with the Sayre & Fisher Electric Light Company and they will furnish current for 4½ or 4¢ cents per kilowatt and the city could get ten cents per kilowatt from merchants; the Sayre & Fisher people have submitted a proposition for a plant similar to the present plant for \$5,400. The motion to appoint a committee was carried and Messrs. O'Connor, Chairman, Dewan and Foreman were appointed.

Auburn, N. Y.—The Auburn Light, Heat and Power Company is arranging to double the capacity of its North street power plant. A triple set of boilers of large capacity will be installed in place of those at present in use.—M. C. Turpin, Manager.

Binghamton, N. Y.—The Binghamton Railway Company will build an extension at once to its transmission lines to enable it to furnish power for lighting the towns of Westover and Hooper and the western section of the village of Lestershire, N. Y.—J. P. E. Clark, General Manager.

Geneva, N. Y.—A conference was held recently between the members of the Board of Public Works, the City Engineer and the members of the special committee of Council, appointed to investigate the cost of a municipal lighting plant and to consider the offers made by the several local companies for the lighting of the city, both under a straight contract at so much per lamp, the bidder furnishing everything in the way of equipment and lamps, and under a contract to simply furnish the city with the necessary current. The special committee has been obtaining figures on the probable cost of poles, wires, lamps and other equipment necessary in case the city should decide to accept the offer of either of the companies that have offered to furnish electric current at a switchboard. It was decided to tabulate the figures and submit the matter to a competent electrical engineer.

Hudson, N. Y.—The Albany & Hudson Railroad Company, Hudson, is planning improvements, including the purchase of a 2,000-horsepower steam turbine, a 500-kw. motor-generator set and the erection of a new boiler house.

Newburgh, N. Y.—The Public Service Commission, Second District, recently gave a hearing in Albany on the application of the Newburgh Light, Heat and Power Company, for an amendment of the order previously granted so that a new plan can be carried out; among the items asked for is the sum of \$25,000 for the placing of a number of the company's transmission lines in the city of Newburgh and conduits underground; provision is also asked for \$18,000 for extending the lines to Ashokan to supply contractors with electric power; \$39,930 for addition to the gas and electric plant in Newburgh, and \$100,000 for construction of the new transmission lines; decision was reserved.

Oneida, N. Y.—The Public Service Commission Second District, has granted the application of the Madison County Gas and Electric Company for consent to issue \$45,000 in gold bonds for the construction of a 60,000-volt transmission line from the steam plant of the Madison County Gas and Electric Company in the city of Oneida, to the village of Oneida Castle, and for the purchase of the necessary right of way therefor and installation in the city of Oneida of a proper generator and the necessary instruments and appliances; for putting in proper repair an overhead system of the Madison County Gas and Electric Company in the city of Oneida, and changing a part of the system from 60 to 40 cycles.

Crooksville, O.—The Perry Electric Com-

pany, of this city, has been incorporated with \$10,000 capital by J. Edward Horn, J. C. Horn and others.

Fremont, O.—The Fremont Power and Light Company, which was recently granted a franchise by the City Council, has accepted the terms of the franchise and announces that work on the construction of the new plant will begin at once. The company proposes to develop water power in the Sandusky River and will erect a large power plant in Bayville, south of Fremont.

Ashland, Ore.—Frank C. Kelsey, Portland, is preparing plans for a power and light plant for street and domestic purposes, to be constructed by the city on Ashland Creek Canyon, to cost about \$60,000.—M. F. Eggleston, City Recorder.

Hatfield, Pa.—The citizens have voted \$4,000 bonds for the construction of an electric light plant.—Jonas S. Mayer, Borough Clerk.

Aiken, S. C.—City has appointed Solomon-Norcross Company, 1622 Candler Building, Atlanta, Ga., Consulting Engineer to make surveys and investigations and estimates of cost of municipal lighting plant.—R. W. Wessels, Chairman of the Water Works Committee.

Scotland, S. D.—The business men and other residents of Scotland have decided in favor of an electric lighting system.—Address City Clerk.

Corpus Christi, Tex.—The People's Light Company, with \$30,000 capital, has been incorporated to supply light, heat and power.—Clark Pease, John C. Kennedy, and others, Incorporators.

Dublin, Tex.—Council has decided to have lights installed to be paid jointly by the city and business men, and arc lights will be placed at each business corner and also one at each depot.

El Campo, Tex.—The El Campo Light, Ice and Water Company has increased its capital from \$10,000 to \$20,000; extensions will be made to the plant.

Gainesville, Tex.—The Gainesville, Whitesboro & Sherman Railway Company, which proposes to build an electric railway from Gainesville to Sherman, 23 miles, and which has recently completed 12 miles of grade, has filed a mortgage to secure \$1,000,000 of 6 per cent. bonds.—John King, of Gainesville, Tex., President.

Sherman, Tex.—Contract will be let in September or October for installing electric light and water systems in this town. Estimated cost, \$30,000.—C. E. Craycroft, Mayor; Chairman Water and Light Committee; P. C. Thurmond, City Engineer.

Petersburg, Va.—The Greenville Light and Water Power Company, of Emporia, Va., is preparing to spend \$100,000 in the development of the water power of Meherrin River one mile from Emporia; Engineers have made the necessary surveys and have decided that a minimum horsepower of 1,400 can be developed by erecting a 36-foot dam across the river at the Watkins old mill site, one mile west of Emporia.

Seattle, Wash.—According to the estimate furnished by L. B. Youngs, Superintendent of the Light and Water Department, over \$500,000 will be required to finish the construction and extension of the municipal lighting plant; there has been issued \$1,440,000 of lighting bonds and with the amount proposed to be issued the total capitalization of the plant will be about \$2,000,000.

Tacoma, Wash.—The City Engineer is preparing plans and specifications for a sub-station for the municipal light plant; building to be of concrete and will cost about \$30,000.

Chilton, Wis.—This city has been temporarily enjoined by the court of letting contract for the proposed electric light plant.—Joseph Grassold, City Clerk.

FIRE EQUIPMENT

Alameda, Cal.—The police and Fire Commission has decided to adopt the plan of Council and erect the new fire building on the site of the old Webb avenue house. Plans and specifications submitted to the Commission will make the new house the most modern in Alameda county; the building will be on the old Mission type, and particular attention will be given to the dormitory feature for the comfort of the members of the Department.

Los Angeles, Cal.—Architect C. F. Skilling has prepared plans for a new fire engine house on Main street, near Vernon avenue, to be modern in every detail; cost about \$12,000.

Selma, Cal.—The City Trustees are considering the purchase of additional fire fighting apparatus.—Address Chief of the Department.

New London, Conn.—A new fire house is needed for the Ockford Hose Company and new fire engine and additional other apparatus is needed for local Fire Department.—Address Chief.

Southington, Conn.—The Fire Commissioners recently investigated in Hilldale to secure a site for the new hose house.

Joliet, Ill.—The Committee on Fire has reported in favor of the Munroe Bros. site at Washington street and Melchior place for the

new Seventh ward engine house and it was decided to proceed at once in securing suitable plans for the new building.

Cedar Rapids, Ia.—Council has decided to erect a new brick fire station on site secured on B avenue West.

Lafayette, Ind.—Plans have been prepared and accepted for new two-story fire engine house, to be brick and stone and known as No. 5.

Newcastle, Ind.—The Fire Department of the city will be brought up to a modern point as Council will equip the Department with up-to-date apparatus.

Ft. Des Moines, Ia.—Plans and specifications have been prepared for an engine house; additional fire apparatus will be purchased.—J. J. Boniface, Constructing Quartermaster.

Wichita, Kan.—The Fire and Water Committee has decided to build a fire station for the South End of the city.

Greenville, Ky.—Council will purchase hose and other fire apparatus.—Orien L. Roark, City Clerk.

New Orleans, La.—Old site of the Chemical Engine No. 6 Company on Magazine street will be disposed of and new site in Twelfth ward secured for the erection of new building.

Thibodaux, La.—Protector Fire Company No. 2 has closed a contract with Joseph Schwartz & Co., of New Orleans, for an up-to-date hose wagon, which will have a 20-foot ladder and two 6-gallon portable fire extinguishers and all other equipment which belongs to a modern fire apparatus.

Boston, Mass.—A site at Lowell and Oxford streets is to be selected for a new engine house in Ward One.

Chelsea, Mass.—The Board of Control invites proposals for the erection of a new central fire station at Chestnut and Library streets, to be modern and after plans by G. Henri Desmond, 15 Beacon street, Boston.

Lawrence, Mass.—The Joint Committees on Public Property and Fire Department have authorized John P. Kane, Mayor, and Chas. G. Rutter, Chief Fire Department, to arrange for the installation of a new 12-circuit fire alarm system; estimated cost, \$19,000.

Grand Rapids, Mich.—An engine house will be built at Island and LaGrave streets.

Pontiac, Mich.—It has been proposed to issue bonds for purchasing new fire apparatus.—Jos. Toynton, Fire Chief.

Perham, Minn.—Council will purchase hose and chemical engine.

St. Paul, Minn.—C. W. Buechner has completed plans for new firehouse for Engine Company No. 19 at Shelling and Ashland avenue, Macalester Park.

St. Louis, Mo.—The Antikamnia Chemical Company will erect a five-story business and factory building. The building will be provided with a sprinkling system.—Frank A. Ruf, President.

East Orange, N. J.—A new fire house on Hollywood avenue and another on Springdale avenue is proposed.—Address Fire Board.

Resolution will be introduced by J. Frank Greer of the Fire Committee for Council to purchase property on Hollywood avenue for new fire house for Fourth Ward.

Perth Amboy, N. J.—Clerk Carr read in Council a communication from Fire Chief Malloy recommending the purchase of 300 feet of new hose, and Councilman Corcoran offered a resolution empowering the Fire Committee to purchase that amount, which was adopted.

Albany, N. Y.—The Board of Aldermen will soon award contract for new fire house in the upper section of Rensselaer.

New York, N. Y.—Plans have been prepared for a three-story fire station, to be erected at Hancock place, near Manhattan avenue; estimated cost, \$40,000.

Lord & Hewlett, 16 East Twenty-third street, has prepared plans for a new two-story fire station at Castle Hill avenue and Ellis avenue, in the Unionport district, to cost about \$20,000.

Niagara Falls, N. Y.—The Fire Board recently authorized the purchase of new hose wagon.

Oneida, N. Y.—Makepeace & Makepeace of Syracuse have submitted plans for combination fire and police station, to cost about \$27,000.

Rochester, N. Y.—Alderman Buckley of the Fifteenth Ward has prepared an ordinance for a new fire house at Hague and Jay streets; Alderman Jacob Gerling, for new fire house in the Twentieth Ward at Child street, near Campbell.

Akron, O.—The Board of Public Safety has ordered three combination automobile chemical engines and hose wagons from the Webb Motor Fire Apparatus Company, of Vincennes, Ind.; the cost of the apparatus will be \$13,500; the apparatus will carry 1,000 feet of hose and a crew of eight firemen, and has a guaranteed speed of 65 miles an hour.

Cleveland, O.—An election will be held to authorize the issue of \$125,000 in bonds for

improving fire system.—Address City Controller.

Cleveland Heights, O.—The Village Council will erect a Town Hall and fire station as soon as possible.

Dover, Pa.—At a recent meeting of the Dover Union Fire Company, No. 1, the members discussed new engine house; R. O. Lauer and others appointed committee.

Harrisburg, Pa.—It is the Fire Chief's plan to have an ordinance calling for an appropriation of at least \$1,000 for the purchase of a gasoline car for his use.

Norwood, Pa.—The Norwood Fire Company is endeavoring to secure funds for new fire house, to be erected on site of building recently destroyed by fire.

Philadelphia, Pa.—Lansdale Fire Company of Lansdale and Friendship Fire Company of Phoenixville are to have new fire houses, to be erected at a cost of \$5,000 and \$8,000 respectively.

Wilkes-Barre, Pa.—An ordinance has been introduced in Council by Alderman Touhill for the purchase of 2,500 feet of fire hose.

Knoxville, Tenn.—Council has appropriated \$30,000 for additional fire equipment and has authorized the Chairman of the Fire and Police Committee to carry out the instructions of the report of the Committee, which provides that an additional fire hall be located in the Ninth Ward, with steamer and combination wagon; one No. 1 steamer, one chemical engine and two combination wagons with chemical attachment to be purchased; the present hook and ladder truck to be rebuilt, with quick-raising facilities; one water tower to be purchased, also the Commerce avenue station to be remodeled so that it will accommodate this equipment, and a general repair shop to be constructed in the basement for the mechanical engineer.

An ordinance recently passed also provides for the purchase of several hundred feet of hose.

Beaumont, Tex.—Funds are being raised for a new building for the West End Fire Engine Company here.—Address Captain of the company.

Norfolk, Ga.—A number of residents of the Lafayette Residence Park recently discussed improvements and better fire protection.—E. M. Isaac, President of Committee.

Wheeling, W. Va.—Over \$66,000 has been appropriated for the Fire Department of this city.—Address the Fire Board.

Beloit, Wis.—Fire Chief Nygren recommends the purchase of chemical fire extinguishers.

Oshkosh, Wis.—The National Board of Fire Insurance Underwriters recommends the improvement of the Fire Department and the purchase of additional fire apparatus.

Wilton, Wis.—Council will purchase fire apparatus.

ELECTRIC RAILWAYS

Augusta, Ga.—The Augusta & Edgefield Railroad Company is advertising for bids for surveying the projected line.—Wm. P. Calhoun, Chairman Committee on Construction.

Valparaiso, Ind.—Valparaiso & Northern Railway, incorporated with \$10,000 capital to construct and maintain street and inter-urban road within and from the city of Valparaiso to and within the town of Chesterton.—George C. Pfeiffer, Vernon R. Chase and others are incorporators.

Topeka, Kan.—The State has granted a charter to the Kansas-Colorado Railroad Company, a corporation with \$5,000,000 capital, which is engaged in the work of building an electric railway from Canon City, Col., to Dodge City, Ford County, Kan.; the proposed company will pass through the counties of Hamilton, Kearny, Finney, Gray and Ford in Kansas; it will be part of the business of the company to promote irrigation from the shallow waters of Western Kansas, and to furnish electricity to the people.—S. H. Atwood, Canon City, President; E. W. Palmer, Pueblo, Secretary.

Boston, Mass.—The merging of three companies of the Newton system of street railways in the Middlesex & Boston Street Railway Company, which is already one of them, is the aim of a petition filed with the Railroad Commissioners, James L. Richards, President of the Middlesex & Boston, the Westboro & Hopkinton Street Railway and the Natick & Cohituate Street Railway asks for consolidation of the two last-named with the first.

The Electric Underground Trolley Railway Company has been incorporated with a capital stock of \$500,000 by G. N. Holman, of Boston, C. B. Ayling of Malden and others.

Malden, Mass.—The Street and Water Commission has granted a permit for the Boston Elevated to open up North Broadway for the purpose of building a car line from Salem street to the Melrose line.

Wyandotte, Mich.—Henry A. Everett has applied to the City council for a street railway franchise in Wyandotte.

Ava, Mo.—The Kansas City, Ozarks &

BRIDGES

Southern Electric Railway Company is building its line with its own forces. The company was incorporated in Missouri to build and operate a standard gage electric railway between Mansfield, Wright County, and Ava, Douglas County, a distance of 16 miles. Capital stock, \$300,000. The following officers have been elected: President, Albert Parker, Ava, Mo.; Vice-President, J. S. McIntosh; Secretary, George W. Wilhelm, all of Kansas City, Mo.; J. B. Quigley, of Mansfield, Mo., is Chief Engineer and General Manager, and C. H. O'Neill, of Topeka, Kan., Purchasing Agent. The surveys of the line between Ava and Mansfield have been completed and right-of-way and capital obtained. Noted on July 30.

Great Falls, Mont.—The surveyors for the Great Falls, Augusta and Chouteau Electric Railway have completed the survey to Chouteau, the county seat of Teton County, and are now running a preliminary line over the Burton Bench.

Holdrege, Neb.—The Western Central Railway Company has been incorporated and the work of survey and securing right-of-way has begun; the organization has been perfected with a capital stock of \$250,000; S. N. Nelson, T. E. Brady, E. O. Carlson and others, incorporators; the line will run north from this city for a distance of about seven miles, then east almost to the eastern line of the county, then northeast to the Platte River, and across the river, just south of the reform school; this road will be operated by electricity.

Binghamton, N. Y.—The Binghamton Railway Company, G. Tracy Rogers, President, is preparing plans for its proposed line from Binghamton to Owego. The line is already in operation as far as Union, 46 miles, and will be extended to Owego as soon as the renewal of franchise is granted by the Village of Owego, and plans are completed.—J. P. E. Clark, General Manager.

Oklahoma City, Okla.—The Canadian Valley Railway Company, which proposes to build a 150-mile interurban line connecting Fort Supply, Woodward, Mutual, Seiling, Canton, Geary, El Reno and Oklahoma City, has not decided upon date for commencing construction work; capital stock, \$2,000,000.—Thomas Martin, President; E. O. McCann, Secretary; L. A. Foster, Treasurer, Mutual, Okla.

Maney Bros. & Henry Schafer are promoters for the proposed interurban road connecting Oklahoma City and El Reno; capital, \$1,000,000.

Albany, Ore.—E. H. Rhodes, of Albany, is interested in project to build an electric railway from Albany to Brownsville, 22 miles, also a local street railway line.

Clatskanie, Ore.—The Clatskanie & Nehalem Valley Electric Railway Company will let construction contracts within the next 60 days. The line will extend from Clatskanie through the Nehalem Valley for a distance of about 30 miles. Surveys are being completed. Right-of-way is secured. There will be a 4,000-foot tunnel.—A. B. Kurtz, President, Clatskanie, Ore.; J. H. Abbott, Portland, Chief Engineer.

Belleville, Pa.—The Belleville & Reedsville Railway Company has been chartered to build a ten-mile line in Mifflin County.—L. M. Yoder, of this city, is President; it is proposed to use electric power.

Memphis, Tenn.—The Lake View Traction Company, which proposes to build an interurban electric line from Memphis to Clarksdale, Miss., via Lakeview, has secured a 60-day option on a lot on Union avenue for a site for its passenger station; the company is making arrangements for beginning work on the line at an early date.

Unaka Springs, Tenn.—Unaka Traction Company, Washington, Union and Carter Counties, has been incorporated with \$10,000 capital by Messrs. Isaac R. Love, W. B. McNabb and A. M. White. The company intends to build a street railway from Erwin to Johnson City through Unaka Springs, the same to be operated either by horse, steam or electric power.

Quitman, Tex.—The Quitman & Great Northern Railway Company has been chartered to build a railway in Wood County; the road, to be ten miles in length, will run from Quitman, the county seat of Wood County, to Mineola, and its general offices will be located at the former city; the company is capitalized at \$25,000.

Salem, Va.—The Town Council has granted a franchise to the Roanoke Railway & Electric Company to extend its line one mile out Main street to Lake Spring.—J. W. Hancock, Roanoke, General Manager.

Olympia, Wash.—Council has passed an ordinance granting the Olympia Light & Power Company a franchise to operate a street railway from the intersection of Main and Third streets west to the government waterway.

Morgantown, W. Va.—The Morgantown & Dunkard Valley Traction Company has decided to build a line five miles long, from Morgantown to Wadestown.—Amri Martin, Superintendent of Construction.

Sacramento, Cal.—The City and County Engineers have decided to prepare plans for a concrete conduit at Thirty-first street.—Address City Engineer Randle.

Douglas, Ga.—The Georgia & Florida Railroad will invite bids for construction of bridge over Altamaha River.—G. B. Hazlehurst, Chief Engineer.

Crete, Ill.—The Village Board is considering plans and specifications for a bridge to be constructed of concrete and steel on Exchange street, the cost of which it is estimated will be about \$700; the matter was referred to the Committee on Streets and Alleys, which, after further consideration, will advertise for bids so as to get the structure completed before winter.—Address Clerk of the Village Board.

Lewiston, Ill.—The Fulton County Board has under consideration the erection of a bridge across the Spoon River, near Lewiston.—Address Fulton County Auditor.

Indianapolis, Ind.—The County Commissioners have appropriated \$100,000 for the construction of a bridge over Fall Creek, at Capital avenue; \$20,000 for a bridge at Iowa and Ringold streets, \$12,000 for a bridge in Washington Township; \$16,000 for a bridge over Williams Creek; \$8,000 for a bridge over Lick Creek, Perry Township; \$8,000 for a bridge over Pleasant Run on county line; \$7,500 for a bridge over Fall Creek on county line; \$10,000 for a bridge over Eagle Creek on the McCurdy pike; \$25,000 for a bridge over Little Eagle Creek, and culverts on township roads.—Address Marion County Auditor.

The Commissioners of Marion County will ask for bids soon for the construction of 13 bridges, the aggregated estimated cost being \$300,000.—John McGregor, Chairman.

Logansport, Ind.—Plans are being made for the construction of a bridge over the Vandalia Railroad tracks at an estimated cost of \$24,000.

Holyoke, Mass.—At a conference between Mayor Avery and Chairman Carmody of the Water Board, it was decided that the Water Department will assist the town of Southampton in building a bridge across the Manhan River near the Fomer reservoir of the Holyoke water supply; the Water Department will bear \$700 of the cost of the structure; the bridge will be of concrete and cement and will cost about \$1,200, leaving a balance of \$500 for the town of Southampton to pay; the new bridge will be built at once; plans have been prepared, it is understood, in Springfield for the Southampton Selectmen.

Detroit, Mich.—P. J. Jacobson is interested in the project to build a toll bridge from Wyandotte to Grosse Isle.—C. C. Bathfield, Consulting Engineer.

Grand Haven, Mich.—Scholten bridge, over Black River, between Zeeland and Holland, collapsed.—Address Ottawa County Auditor.

Muskegon, Mich.—Council has been petitioned for a new bridge across Ryerson Creek at Murphy street.—C. H. Potter, Street Commissioner.

Hudson, N. Y.—The Commissioners of Highways of the towns of Greenport and Claverack have invited bids for a concrete abutment and steel superstructure of bridge to replace bridge known as the Bunker bridge; plans are on file with Andrew H. Hiscox, Hudson, or Jacob J. Rossman, Churetown, Commissioners.

Little Falls, N. Y.—The Board of Public Works has decided to construct a steel bridge over Furnace Creek at Elizabeth street.

Cincinnati, O.—The Engineering Department has filed with the Board of Service the plans for the repair of the Eighth street viaduct; the cost will be about \$25,000; in addition to the repairing of the spans, there will be new cement sidewalks all the way across the viaduct, replacing the wooden sidewalks, and a massive asphalt roadway will be built across the entire structure.

Cleveland, O.—The Cleveland Trust Company has purchased \$253,000 Cleveland 4½ per cent. bridge bonds at 104.536.

Toledo, O.—The new Cherry street bridge bond issue of \$525,000 was sold by the Council Committee on Finance at a premium of \$27,704.25 to these joint bidders: Ohio Savings Bank and Trust Company of Toledo, Cleveland Trust Company of Cleveland, German National Bank of Cincinnati; theirs was the only proposal made among eight bidders without imposing conditions as to litigation and time of delivery. The high premium offered and the lack of any limiting conditions astounded the Committee on Finance and the disappointed bond buyers.

Portland, Ore.—That the proposed new Madison street bridge can be built at an elevation of 23 feet above the present structure with the \$450,000 bond issue, which will permit three-fourths of the vessels plying on the Willamette to pass beneath it without the draw opening, has been determined by a careful investigation into the subject.

Highspire, Pa.—The Town Council has passed an ordinance providing for the re-

building of the bridge over Boosers' Run at Second street; the contract will soon be let.

Holidaysburg, Pa.—New bids will soon be received by the County Commissioners for the construction of five bridges, the spans of which will range from 30 to 80 feet, two to be steel and the smaller ones of reinforced concrete.—Address J. L. Henry, C. E.

Washington, Pa.—Bids will be received Sept. 10 by the County Commissioners for \$125,000 bridge bonds.

Austin, Tex.—The County Commissioners have received plans for constructing a bridge over the Colorado River in Austin; estimated cost, \$200,000.

San Antonio, Tex.—The new bridge across San Pedro Creek on West Houston street will be constructed of reinforced concrete.

Spokane, Wash.—Council has adopted plans prepared by J. C. Ralston, City Engineer, for the construction of a reinforced concrete bridge across the Spokane River at Mission avenue (to be erected by day labor), to have a 40-foot roadway and a capacity of carrying 50-ton street cars; estimated cost, \$116,640, the work on same to proceed with all possible haste; all bids received by the Board of Public Works on Aug. 11 for the erection of this bridge by contract, were rejected.

The property owners on East Olive avenue have petitioned for cement bridges.—J. S. Phillips, President of the County Commissioners.

Marinette, Wis.—The County Board has provided for a new bridge across the Peshigo River in the town of Lake, to be a single-span steel structure, 150 feet in length.—Address Marinette County Auditor.

MISCELLANEOUS

Oakland, Cal.—If the opinions of Mayor Mott of Oakland prevail it is probable that Council's estimate of \$4,500,000 as the proper amount of a bond issue for beginning the work on the waterfront plans, will be materially reduced. The necessity of a garbage crematory was also talked of by the Mayor and Engineer, and it was agreed that the bond issue for waterfront improvements should also include a sufficient sum with which to erect an incinerator.

Visalia, Cal.—Plans are under way for a new city park here. It has been proposed to erect new City Hall in the new park. Nothing definite as yet decided on.

New Haven, Conn.—The aldermanic committee appointed to look into the matter of the construction of a recreation pier at the foot of Blatchley avenue, will report to the Board September 14, in favor of the project and the Board of Finance will be asked for \$5,000 in the estimates for the coming year.

Washington, D. C.—Proposals will be received, September 14, by the Isthmian Canal Commission, for the supply of packing, rubber valves, gaskets, brick, vitrified pipe, bolts, spikes, iron washers, reamers, boiler-makers' clamps, wire cable, repair parts for dredges, orange-peel bucket, frogs, track levels, pneumatic drills, anchors, steam capstan and windlasses, electric motors, water meters, emery grinders, lights for towboat, gauge glasses, pomade bottles, kitchen utensils, glassware, meat blocks, bread boxes, water coolers, mess kits, paint buckets, towels, linoleum, mop heads, pillows, chair bottoms, rim locks, watchmen's watches, scythes etc. (Circular No. 462.). Proposals will be received by the Commission until September 21 for the supply of 200 dump cars. (Circular No. 463.)

Daytona, Fla.—The city has voted \$50,000 bonds.—D. D. & C. M. Rogers, Engineers; Wm. Atwood, F. D. Spring, D. D. Rogers, E. W. Green and F. N. Conrad, Bond Trustees.

Jacksonville, Fla.—Members of the Board of Public Works have decided that the city must have a new crematory. The health of the city depends on it and even if some other needed improvement must suffer, the crematory must come. No official action has yet been taken looking to this.

Terre Haute, Ind.—Garbage plant and park bonds amounting to \$70,000 have been sold.

Vincennes, Ind.—The two proposals submitted for building a garbage reduction plant and for taking care of the city's garbage and refuse matter, were discussed at considerable length by the Board of Works and the City Attorney was instructed to rewrite a contract which will meet the requirements of the city and which will be submitted to the bidders for their approval as the case may be.

St. Louis, Mo.—City Architect Jas. A. Smith is preparing plans for two three-story police stations for the Board of Police Commissioners, \$100,000 and \$75,000, respectively.

Jersey City, N. J.—Mosquito extermination will be continued on the part of the Board of Health and \$1,500 is provided by taxation for this purpose.

Brooklyn, N. Y.—Improvements to cost between \$10,000 and \$12,000 are planned for Greenpoint Park at Greenpoint.

New York, N. Y.—George H. Pegram, an architect for the Rapid Transit Construction Company, has filed plans with Building Superintendent Murphy for the working outfit to be used by the company for the enlarge-

ment of the subway from 96th to 102d streets. The construction plant is to be erected at Broadway and 97th street and will comprise six buildings, consisting of a machine shop with a compressor room, a smithy, a carpenter shop, a supply house, an oil house and a cement shed and storage yard.

Rochester, N. Y.—The Park Board has secured options on land at Lake for a new park.—W. C. Barry, President of the Board.

Bremerton, Wash.—Special election is planned to vote on buying park.

Toledo, O.—J. C. Vernier, of Archbald, O., has put before the Council Committees a proposition for the disposal of the city's garbage by shipping it out of the city by railroad; a sub-committee was appointed to hear Mr. Vernier's proposition and see if a contract can be entered into that will save money for the city over the present plan of hauling the refuse into the country and plowing it under.

Tusla, Okla.—The proposition to issue bonds to the amount of \$275,000 for schools, sewers and parks and for a special tax levy of 2 mills carried as to everything with the exception of parks in a special election.

Uniontown, Pa.—The citizens are interested in the establishment of a new public park and playgrounds here.

Chattanooga, Tenn.—Arrangements will soon be made for improving city parks; Mayor Crabtree can be addressed.

Memphis, Tenn.—Members of Council may make some arrangements for the purchase of modern street sprinklers or street washing machines.

Park City, Tenn.—Officials have rejected two bids which were made on the \$105,000 bond issue for schools and improvements; one was by S. A. Kean & Co., of Chicago, who bid \$101 for the entire issue, while the Union Bank, of this city, bid \$102; new bids will be asked.

Dallas, Tex.—The Municipal Commission has asked bids for 2,000 yellow pine posts to be used for the support of street signs; the posts which it is intended to procure will, Commissioner Doran declares, combine the ornamental with the useful; they will be much cheaper than iron posts, but the latter will probably be used in the downtown section; at least it is not intended to place the wooden posts in the downtown section.

Seattle, Wash.—Two hundred thousand dollars is the amount asked for city stables and shops; included in estimate also are the following proposed improvements: Comfort Station, Prefontaine Place and Yesler Way, \$30,000; fire house to replace the one at Third avenue South and Main streets, headquarters, \$75,000; fire house at First avenue south and Holgate street, \$25,000; fire house at Ballard, \$25,000; pest house, \$15,000; fire house at Fifteenth avenue north and Harrison street, \$15,000.

Milwaukee, Wis.—Plans are under consideration for a new park on the lake shore in Bay View, Col. Dan B. Starket, of the South Division Civic League, is interested.

Montreal, Canada.—At a special meeting of the Health Committee it was decided to accept plans for a new bath at the corner of Marie Anne and Mentana streets, which will be open the year round. It will be the first bath of that kind in Montreal. Chairman Dagenais said he thought the city should begin to build baths for the people, which they could use whenever they wanted to. The lowest tender was found to be from L. Langevin at \$24,500. As the committee has \$20,000 voted, they decided to ask the Finance Committee for a further grant of \$5,000.

BIDS RECEIVED

Prattville, Ala.—The city has awarded contract to Woolsey Finelle, city, for construction of sewer system and water works.—Solomon Norcross Co., 1622 Chandler Building, Atlanta, Ga., Consulting and Designing Engineer.

Escondido, Cal.—Chick & White, Los Angeles, are low bidders for constructing sewer system, to cost about \$14,000.

Oakland, Cal.—The contract for furnishing material and constructing an extension to the storm sewer in Grove and Jones streets, to Lake Merritt has been awarded to Contra Costa Construction Co., of Berkeley.

Santa Clara, Cal.—Couchot & Thurston of San Francisco have been awarded the contract for the developing of the water system at the new and greater Santa Clara College site near Mountain View. Two 50,000-gallon water tanks will be erected for the regular water used and a 100,000-gallon emergency tank will also comprise part of the system.

Hartford, Conn.—The Board of Contract and Supply has let contract to Edward Balf Company for the construction of a drainage system in a portion of Wethersfield avenue.—James P. Berry, Secretary.

Waterbury, Conn.—A strong effort will probably be made by the residents of East Main street to secure wood block paving for that street when the permanent paving is laid by the Board of Commissioners of Public Works; bids were received from vari-

ous concerns recently for different styles of paving, all of which were referred to the "Permanent Pavement Committee," consisting of Mayor William E. Thoms and City Engineer R. A. Cairns, for tabulation and recommendation. The bids received were as follows: Edward McManus, Waterbury; Mack block, per square yard, \$2.84; Johnsonburg block, per square yard, \$2.95; Metropolitan block, per square yard, \$3.25; for each linear foot of bluestone curbing finished, 85 cents; for each linear foot of curbing set, 20 cents. Fred T. Ley & Co., Springfield, Mass.; Mack block, \$2.84; Johnsonburg block, \$2.75; curbing, 65 cents; setting, 20 cents. John F. Kerwin, New Brunswick, N. J.; Mack block, \$2.93; Johnsonburg block, \$2.93; Metropolitan block, \$3.02; curbing, 65 cents; setting, 20 cents; Bessemer block, \$3.02. Warren Bros. Co., Boston, Mass.; Bitulithic on 6-inch base, \$2.60; curbing, 75 cents; setting, 17½ cents. U. S. Wood Preserving Company; For each square yard of 3-inch wood blocks, \$3.55; curbing, 67 cents; setting, 15 cents. Connecticut Hassam Paving Company, New Haven; Hassam pavement, \$1.90; Mack block on Hassam foundation, \$3.95; Johnsonburg block on Hassam foundation, \$3.95; curbing, 85 cents; setting, 15 cents.

Fort Barrancas, Fla.—Bids were opened for the construction of macadamized roads, which will be forwarded to the War Department for further action. The Turner Construction Company of Pensacola submitted a bid for the work, which amounted to \$18,141. H. Monk, however, underbidding at \$17,420. Over one mile of road is to be built.

The bids submitted for the cement walks which were also to have been built, have been rejected, for the reason, it is said, that all of them were too high. There will probably be no walks built at the post as a result for some time at least.

Tampa, Fla.—Council has awarded contract to the Edwards Construction Company of Tampa, for construction of approaches and piers for bridge to be erected across Hillsboro River, from the foot of Garcia avenue; estimated cost, \$26,000.

Atlanta, Ga.—H. B. Thompson, Birmingham, Ala., has secured contract, at \$12,392, for constructing a reinforced concrete viaduct on Ponce de Leon avenue, Druid Hills, Atlanta.—D. Lee Wardroper, City Engineer.

Barnesville, Ga.—Council has let contract for the improvement of the electric light and water plants, amounting to \$7,000, and work will commence at once on them; the contracts were let to the Allis-Chalmers Company and Fort Wayne Electric Company.

Rome, Ga.—The Board of Public Works has let contract to the Georgia Engineering and Construction Company, city, for approximately 41,000 square yards of pavement and 12,000 linear feet of granite curbing and concrete foundations.—M. L. Worrell, Superintendent; Hazlehurst & Anderson, Engineers, Atlanta.

Bloomington, Ill.—I. D. Lain has been awarded contract for 5,100 square yards 4-inch brick on 4-inch concrete foundation, 2-inch sand cushion and asphalt filler at \$1.75 per square yard; 1,500 cubic yards excavation included; also for 3,000 linear feet combined curb and gutter, at 42 cents, and Geo. W. Bansaw was awarded contract for sidewalks consisting of 1 inch of 1:2 sand surface material on 3 inches of 1:3:6 stone, at 8½ cents. O. W. Dunlop bid \$1.93 for the brick paving and 49 cents for curb and gutter, and Crescent Contracting Company \$1.83 for paving and 43 cents for curbing.—C. F. Fauntz, City Engineer.

Caseyville, Ill.—Geo. R. Hyten, Edwardsville, has the contract for laying granite sidewalk at Caseyville.—Hy. Koblitz, Sr., Village Clerk.

Dana, Ill.—J. C. Lutz, city, received the contract, at 12 cents per square foot, for laying 3,000 square feet of concrete sidewalk.—C. M. Turns, Village Clerk.

Danville, Ill.—The Interurban Construction Company, city, has the contract at \$1.43 per square yard, for paving sundry streets, and 37 cents per linear foot for curbing.—W. H. Martin, Secretary Board of Local Improvements.

Decatur, Ill.—The Board of Local Improvements let contract to John F. Mattes, city, at \$5,145.52, for 2,693 square yards of curbing, grading and paving on Crea street.—Albert Leach, City Clerk; A. B. Alexnader, City Engineer.

East Moline, Ill.—The contract for furnishing material and laying water mains in portions of various streets and avenues was awarded to the Moline Heating and Construction Company, of Moline, at \$19,990.

Marengo, Ill.—John Fair and John Tripp, Belvidere, have the contract for 6,655 yards of brick paving.

North Chicago, Ill.—Only one bid was received for the construction of a water supply intake, crib, pump well and auxiliary piping at the naval training station, Great Lakes, North Chicago, Ill.; W. H. Wheeler,

6537 Woodlawn avenue, Chicago, \$17,800.

Park Ridge, Ill.—John A. McGarry, Security Building, Chicago, was awarded the contract at \$73,512 for macadamizing sundry streets; W. D. Jones, Engineer, 140 Dearborn street, Chicago, drew the plans.

Roberts, Ill.—A. Lally, of this place, has the contract for digging trenches and laying water mains, etc., in Main street.—J. P. Smith, President Board of Local Improvements.

Robinson, Ill.—Troy Porter of Paris has been awarded contract for about six miles of new water main by W. H. Clinton, receiver of the water and light plant in Robinson; the price was \$22,495.

Rock Falls, Ill.—The Board of Local Improvements let contract to Ridge Bros., Sterling, for grading, curbing and paving a portion of First avenue.—A. A. Thome, Mayor, President of Board.

Sterling, Ill.—The Board of Local Improvements let contract to Ridge Bros., at \$12,350, for paving First avenue, from First street to Dixon avenue.

Ames, Ia.—The Des Moines Bridge and Iron Company, of Des Moines, has secured the contract for an extension to the distribution system of the city water works for \$14,990. Other bids received were: James M. Healy, Chicago, Ill., \$16,526; C. R. De La Hunt, Cedar Rapids, \$17,085; Anderson & Nelson, Boone, \$15,328; Cook Construction Company, Des Moines, \$15,878.

East Chicago, Ind.—H. W. Johnson, 4436 Magown avenue, has contract for a new two-story police and fire station, to be erected at Guthrie and Elm streets, Indiana Harbor, to be 50x90 feet in dimensions and erected at a cost estimated at about \$30,000.—J. T. Hutton, Hammond Building, Architect.

Fort Wayne, Ind.—Derheimer & Co. were the only bidders before the Board of Works for the main sewer in Forest Park and were awarded the contract at \$5.44 a running foot. The total bid of the firm was exactly the same as the estimate of the City Engineer, \$15,536.64. The sewer is 2,856 feet in length.

The Ferrine-Armstrong Company was awarded a contract for furnishing white oak timber for bridges at \$32 a thousand.

Hammond, Ind.—Lavene Bros. were low bidders at \$1.56 per square yard for asphalt macadam pavement and 40 cents per foot for curbing, on East Ogden street.

Indianapolis, Ind.—The Board of Works has received bids as follows:

Cement walks in Thirty-fifth street, from Meridian to Salem, F. W. Abel, 69 cents; William H. Holl, 57 cents; Marion Caldwell, 65 cents; J. S. Sullivan, 69 cents; John Arnold, 62 cents.

Grading roadway, cement sidewalks on Jackson street, from Sanitorium avenue to first alley west, John Arnold, \$1.18.

Brick roadway in first alley west of East street, from Tenth street to first alley south: Manley & O'Donnell Company, \$1.27 each side; water connections, per foot, 75 cents; sewer connections, per foot, \$1.25; gas connections, \$6. George W. McCray, \$1.72; sewer connections, per foot, \$1; water connections, per foot, 75 cents; gas connections, each \$6.

Brick pavement in first alley east of College avenue, from Thirteenth street to first alley south: Johnson & Henderson, \$1.22; water connections, \$1.20; sewer connections, \$1.25; gas connections, \$6. George W. McCray, \$1.19; water connections, per foot, 75 cents; sewer connections, per foot, \$1; gas connections, \$6. Manley & O'Donnell Company, \$1.19 each side; water connections, per foot, 75 cents; sewer connections, per foot, \$1.25; gas connections, \$6.

Brick pavement in first alley east of Capitol avenue, from North street to Emmett street: Johnson & Henderson, \$1.45; water connections, \$1.20; sewer connections, \$1.25; gas connections, \$6. Manley & O'Donnell Company, \$1.39 each side; water connections, per foot, 75 cents; sewer connections, \$1.25; gas connections, \$6. George W. McCray, \$1.37; sewer connections, \$1; water connections, 75 cents; gas connections, \$6.

Cement walks on south side Naomi street, from Shelby to Laurel: F. W. Abel, 55 cents; Wm. H. Holl, 56 cents; Marion Caldwell, 65 cents; Henry Maag, 59 cents; J. E. Sullivan, 61 cents; John Arnold, 65 cents; William Yates, 56 cents; J. Harry Roberts, 57 cents; J. V. Baxter, 63 cents.

Contracts have been made as follows: Cement sidewalks on west side of Roosevelt avenue, from Arsenal avenue to Sheldon street, John Arnold, contractor; sewer in St. Peter street, from Pleasant run to first alley south of Prospect street, Manley-O'Donnell Company, contractor.

Seymour, Ind.—Council has let contract to Degolyer & Welsh, city, for the construction of a 10-inch sewer in Central avenue and local sewers in Poplar, Fourth and Fifth streets.—Fred. Everback, City Clerk.

West Lafayette, Ind.—The Town Board of Trustees have let contract to Geo. H. Sage,

at \$1.50 per foot, for grading and graveling roadway and constructing combined cement sidewalks, curbs and gutters on Salisbury street, from Wood to Williams street.—Chas. T. Stallard, Clerk.

Davenport, Ia.—Council has approved recommendation of the Board of Public Works, that the paving of Seventeenth street and alleys in Block 3, Central Park addition, be awarded to the McCarthy Improvement Company, the paving of Charlotte street to the Davenport Construction Company, the paving of Cambria street to the J. B. Frahm Fuel Company, the paving of alley between Fourth and Fifth and Rock Island and Iowa streets and Myrtle street to the Hydraulic Construction Company, and the rock for riprapping to Linwood Quarries Company. The Board received the following proposals for the work: McCarthy Improvement Company, Seventeenth street: excavating, 43 cents per cubic yard; asphalt paving, \$1.84 per square yard; combined curb and gutter, 66 cents per linear foot. Alley in Block 3, Central Park addition: excavating, 43 cents per cubic yard; asphalt paving, \$1.89 per square yard. Cambria street: Excavating, 40 cents per cubic yard; brick paving, \$1.74 per square yard; cement curbing, 39 cents per linear foot. Charlotte street: Excavating, 40 cents per cubic yard; brick paving, \$1.74 per square yard; cement curbing, 34 cents per linear foot. Myrtle street: Excavating, 40 cents per cubic yard; brick paving, \$1.74 per square yard; cement curbing, 39 cents per linear foot. Alley between Fourth and Fifth: Excavating, 40 cents per cubic yard; brick paving, \$1.74 per square yard.

Hydraulic Concrete Construction Company: Cambria street: Excavating, 40 cents per cubic yard; brick paving, \$1.59 per square yard; cement curbing, 34 cents per linear foot. Alley between Fourth and Fifth: Excavating, 39 cents per cubic yard; brick paving, \$1.49 per square yard. Myrtle street: Excavating, 36 cents per cubic yard; brick paving, \$1.49 per square yard; cement curbing, 33 cents per linear foot. Charlotte street: excavating, 41 cents per cubic yard; brick paving, \$1.59 per square yard; cement curbing, 34 cents per linear foot.

J. B. Frahm Fuel Company: Alley between Fourth and Fifth: Excavating, 40 cents per cubic yard; brick paving, \$1.56 per square yard. Cambria street: Excavating, 38 cents per cubic yard; brick paving, \$1.49 per square yard; cement curbing, 30 cents per linear foot. Charlotte street: Excavating, 42 cents per cubic yard; brick paving, \$1.56 per square yard; cement curbing, 30 cents per linear foot.

Davenport Construction Company: Cambria street: Excavating, 40 cents per cubic yard; brick paving, \$1.52 per square yard; cement curbing, 32 cents per linear foot. Alley between Fourth and Fifth streets: Excavating, 40 cents per cubic yard; brick paving, \$1.55 per square yard. Myrtle street: Excavating, 40 cents per cubic yard; brick paving, \$1.52 per square yard; cement curbing, 32 cents per linear foot. Charlotte street: Excavating, 40 cents per cubic yard; brick paving, \$1.52 per square yard; cement curbing, 32 cents per linear foot.

Independent Construction Company: Myrtle street: Excavating, 37 cents per cubic yard; brick paving, \$1.55 per square yard; cement curbing, 32 cents per linear foot. Cambria street: Excavating, 37½ cents per cubic yard; brick paving, \$1.54 per square yard; cement curbing, 32 cents per linear foot. Charlotte street: Excavating, 37½ cents per cubic yard; brick paving, \$1.54 per square yard; cement curbing, 32 cents per linear foot.

Rock for riprap: Linwood Quarries Company, \$1.09 per cubic yard; John Frey, \$1.33 per cubic yard; John Frey, 97 cents per cubic yard if city unloads.—Thomas Murray, City Engineer.

Sioux City, Ia.—The Lytle Construction Company, city, was low bidder for constructing sewers, as follows: 21,000 feet 8-inch, at 44½ cents; 9,450 feet 10-inch, 54½ cents; 2,500 feet 12-inch, 64½ cents; depth of trench, 12 to 15 feet, clay and loam excavation; 71 manholes, 9 to 17 feet deep, \$34.75. Totals: Lytle Construction Company, \$18,575; J. M. Lewis, \$24,238.50; L. Christianson & Co., \$24,752.47; J. D. Patten, \$27,827; J. W. Smith, \$24,482.85.

A contract for sidewalk improvements in Galbraith's addition was awarded the Iowa Cement Brick Company. The contract for the construction of a storm water sewer on Twentieth street, from Douglas to Summit avenue, was awarded L. Christiansen & Co.—T. W. Bayne, Chairman Sewer Committee.

Beloit, Kan.—The U. S. Cast Iron Pipe & Foundry Company, of Chicago, Ill., has secured the contract for furnishing f. o. b. cars Beloit, about 500 tons cast-iron pipe and also special castings.

Lawrence, Mass.—Superintendent Needham has formally awarded William J. Carroll the contract to build a concrete foundation and make the necessary repairs on the defective sewer at the Emmons harness shop on May street; his bid, which was lowest of four,

was \$5.80 per cubic yard for concreting; according to Superintendent Needham, it will take about 24 cubic yards to do the work so that the job will cost in the vicinity of \$140.

Medford, Mass.—Contract has been awarded to Lynch & Woodward, 26 Beach street, Boston, for additions and alterations to the power plant at the Asylum for the Chronic Insane.—Ira G. Hersey, Chairman Board of Trustees.

New Bedford, Mass.—Benjamin Sykes & Co. have been awarded contract for the erection of a new engine house, to cost \$20,500.

Detroit, Mich.—The Public Lighting Commission has awarded a contract to the Westinghouse Electric and Manufacturing Company, Pittsburg, Pa., for a turbo-generator set, similar to the one now in use at the municipal electric light plant, to cost \$53,000. The Commission is considering the question of installing flaming arc lamps on Woodward avenue, from the river to Grand Circus Park.

Grand Rapids, Mich.—The Board of Public Works has recommended the purchase of the Wilson-Snyder pump. The Platt Iron Works of Dayton, O., has forwarded to each Alderman a letter in which is set forth arguments in favor of its machine over that of the Pittsburg firm. The present outlook is that the action of the board in awarding the contract to the Wilson-Snyder Company will be concurred in by Council.

Hancock, Mich.—Council awarded contract to Phil O. Sheridan, city, at \$6,967.90, for the construction of a sewer system, at West Hancock.

Romeo, Mich.—Drought & Co., Port Huron, received the contract for the construction of approximately 2,800 feet of 30-inch cement sewer.—Byron N. Seaman, Village Clerk.

St. Joseph, Mich.—Bids were received by Harry L. Murphy, City Clerk, for constructing a swing bridge and approaches over St. Joseph River at State street; total length, 780 feet; the contract for the superstructure was awarded to Joliet Bridge & Iron Company, Joliet, Ill., and for the substructure to G. A. Allmendinger, Benton Harbor.

St. Paul, Minn.—P. J. Ryan has secured the contract for putting in a sewer on Rose street, from Greenbrier to Pauye, his bid of \$817 having been the lowest; the construction of a sewer on Colorado, from Hall to Stryker, was awarded to Christ Johnson for \$599, who also has the contract for constructing a sewer on Mississippi street, from Jenks to Lawson, on a bid of \$557. A sewer on Osceola, from Milton to Chatsworth, is to be constructed by O'Neil & Preston, whose bid was \$1,573. Contracts were also awarded for grading an alley in Block 41, Summit Park place, which went to Peter Dickson for \$240, while Keogh Bros. were awarded the contract to grade an alley in Block 33, Glins & Zimmerman's rearrangement, for \$287.

Clarksdale, Miss.—Contracts were awarded to the Weber Company, Memphis, Tenn., for concrete-steel chimney; to Ball Engine Company, Erie, Pa., for 540-h.p. engine, and to Crocker-Wheeler Company for 300-kw. generator. Contracts for covered reservoir, repairs to the building and for steam piping have not been awarded.—Walter G. Kirkpatrick, Jackson, Engineer.

Carthage, Mo.—Frank I. Taylor has been awarded contract for furnishing material and constructing sewer in Sewer District No. 6, as follows: Furnishing and laying 8-inch pipe, including Y branches, detachable covers and cement joints, 31 cents per linear foot; furnishing and laying 10-inch pipe, including Y branches, detachable covers and cement joints, 37 cents per linear foot; excavation and backfilling under 6 feet deep, 40 cents per linear foot; 6 feet or over and under 8 feet, 62 cents per linear foot; 8 feet or over and under 10 feet, 90 cents per linear foot; 10 feet or over and under 12 feet, \$1.05 per linear foot; rock trench, per linear foot per foot in depth, 50 cents; manholes, complete, \$40 each; lampholes, complete, \$6 each; flush tanks complete, \$70 each.—J. P. Leggett, Mayor.

Butte, Mont.—The contracts for paving Arizona, Utah and Front streets have been given to Al. Saner. The block between Wyoming and Delaware on Front will not be paved immediately, as the committee found that there was sufficient objection from property owners to stop the action. The bid of Henry Davis was accepted for the fixing of the new grade at Broadway and Wyoming street and restoring the paving there. When the resolution having to do with the paving of Arizona, Utah and Front streets were reached, Alderman Nerny read an estimate of cost showing that the two districts lying between Park and Porphy, on Arizona, comprising two blocks, would be paved for something like \$780 less by accepting the bid of Welch instead of that of Saner. Alderman Harrington, Chairman of the Committee, stated that the contract had been recommended let as a whole by the committee because they believed the best interests of the city would be subserved in this way, and pointed out that the whole sum of the bids

by Saner figured out at some \$6,170 less than that of the next lowest competitor.

Camden, N. J.—These sheet asphaltum paving contracts awarded to the Filbert Paving Company have been approved by Council: Chelton avenue, from West Jersey Railroad to Seventh street; Eighth street, from Vine to York; Sycamore, from Orchard to Lewis; Rose, from Sycamore to Kaighn avenue. Aaron Ward to pave Jefferson avenue, from Fourth street to a point west of Third street. The New Jersey Construction and Contracting Company was awarded the contract to pave with macadam Twenty-sixth street, from Federal to Howell.

Fort Lee, N. J.—Following are bids opened by the Mayor and Council for the construction of a portion of the Dead Brook sewer: Henry & Emmer, West New York, \$22,614; James J. Fusco Company, Newark, N. J., \$22,128; E. C. Humphrey & Co., Hackensack, N. J., \$19,219; Ernest Abraham, Hackensack, \$20,275, and Edward P. O'Neill, Jersey City, \$17,330.—Ralph D. Earle, Jr., Borough Engineer, Hackensack.

Nutley, N. J.—A \$700 contract for laying water mains on Avondale road and Roma street was awarded to James T. Boylan, of Belleville.

Montclair, N. J.—The Board of Freeholders of Sussex County awarded a contract to the Canton Bridge Company of Albany, N. Y., to build a bridge over the River Styx, in Bryan Township. The cost of the bridge will be \$10,285. The bridge will be 594 feet long, and the middle span of 100 feet will be 10 feet above the high water mark, instead of 7 feet as in the original plan.

Harrison, N. J.—The question of paving Davis avenue with telford was finally settled by the Town Council when the contract was awarded to the J. F. Shanley Company for \$10,796.50; for more than a year the matter had been hanging fire, meeting with opposition several times when the contract was about to be awarded.

Council also gave out the contract for the paving of Sussex street, between Third and Sixth streets, with bitulithic. Van Keuren & Son were awarded the work, being the lowest bidder. Their figure was \$16,723.60, which was only \$35 less than the bid of the Shanley firm.

Jersey City, N. J.—These Street and Water Board contracts were concurred in: Contract with United States Wood Preserving Company for repaving of Communipaw avenue, from Pacific avenue to Morris Canal bridge; contract with United States Wood Preserving Company for repaving of Brunswick street, from Montgomery street and Wayne street, and Wayne street, from Brunswick street to a point 200 feet west; contract with United States Wood Preserving Company for repaving of Twelfth street, from Jersey avenue to Erie street. The Finance Board also concurred in the award to Henry Byrne of the contract for the repaving of Twelfth street, from Coles street to Jersey avenue, and from Erie street to Henderson street, and in the award of the contract to the Barber Asphalt Company for the improvement of Bowers street, from Pallsade avenue to Ogden avenue, and the contract for the asphaltting of Waverly street, from Oakland avenue to Central avenue.

Trenton, N. J.—The Street Committee of Council has decided to recommend to Council that the contract for the new bitulithic pavement on Princeton avenue be awarded to the United Paving Company of Atlantic City. This concern bid \$2.48 a square yard, or \$50,817.25 for the entire job. The bid of the McDonnell Construction Company, which was \$1.90 a square yard, or \$42,684.75, was rejected because it did not comply with the specifications. It bid on "bitulithic macadam." This concern did not file samples, as directed. The bid of Thomas J. McGovern, of this city, was also considered irregular. His figure was \$2.35 a square yard, or \$47,983.75; he submitted a sample of wearing surface, but not of ingredients; he had a still lower bid for "asphalt, sand and stone." John H. Hurley bid \$2.40 a yard or \$49,469.75 on bitulithic without specifying Warren Brothers bitulithic, and did not submit samples and his bid was considered irregular. The bids of Carmine Guadagni, \$2.50 a yard, or \$51,332.05; the Central Bitulithic Company, \$2.54 a yard or \$52,235.20, and the Standard Bitulithic Company, \$2.58, or \$53,246.60, were too high.

Rutherford, N. J.—Miele & Bruno Co., West Orange, were awarded the contract for constructing a sewer, and William Torrence, 265 Broadway, New York City, has the contract for a septic tank.—F. A. Stedman, Borough Clerk.

Buffalo, N. Y.—Contract has been let to H. P. Burgard Company, 275 Lathrop street, at \$5,200, for paving Bristol street; George C. Waite, at \$1,595, for sewer in Pfaulder street; George W. Moore, at \$1,298, for sewer in Germania street.

Cortland, N. Y.—James Steel, Jr., has contract for construction work on three miles of good road here.

Fredonia, N. Y.—Thomas Fitzgerald Company submitted low bid for the repaving of East Main street with brick to the Village Trustees as follows: Removing refuse earth and material and cleaning of streets in general, 3,000 square yards, 8 cents; removing of wearing surface and surplus macadam stone, 1,000 square yards, 15 cents; resetting and relining curb, 500 linear feet, 25 cents; placing of sand cushion, 3,000 square yards, included in brick, placing of brick wearing surface and filling joints with elastic compound, \$1.55; replacing present roadbed, 1,000 square yards, 40 cents; earth excavation, 10 cents; iron receivers, \$50; total, \$5,765. Lawrence Schultz bid \$6,540, and the Engineer's estimate was \$5,630.

Kingston, N. Y.—Thos. J. Cusack, Jr., 261 Fair street, has the contract for constructing a sanitary sewer in Garden street, from Foxhall to Smith avenue.—John T. Cummings, City Clerk.

Long Island City, N. Y.—Contracts have been let to the Barber Asphalt Paving Company, 30 Church street, New York, at \$11.618, for regulating, grading and paving with asphalt blocks on Onderdonk avenue; Continental Asphalt Company, at \$9.315, for laying sidewalks and paving with asphalt blocks on Academy street; William Howe, \$2,112, for constructing sewer in Third avenue.

Seneca Falls, N. Y.—C. T. Hookway of Syracuse was the lowest of ten bidders for the construction of a disposal plant for the sewage system in this village, and he was awarded the contract by the Municipal Board. The bid of Mr. Hookway was \$7,650, while \$11,000 was appropriated for the site and construction of the plant. The bids were as follows: C. T. Hookway, Syracuse, \$7,650; Geo. Sargent, Jr., New York, \$7,947.20; A. C. Martin, Seneca Falls, \$7,997; A. B. Griswold, New Britain, Conn., \$8,011; William M. Torrence, New York, \$8,142; C. R. Lewis, Iliou, \$8,908.10; F. W. Whittemore, Lestershire, \$9,907; Claude Ludington, Clyde, \$9,746; W. J. Burns & Co., Syracuse, \$9,905.50; P. R. Kelly, Syracuse, \$10,445. The land upon which it is intended to build the plant is that for which the village hopes to exchange parts of several streets with the Lehigh Valley Railroad Company. It is located on the south bank of Seneca River at the entrance of the Elm street sewer.

Troy, N. Y.—Martin Murray has been awarded the contract for grading and paving Avenue B.—James E. Riley is Secretary of the Board of Contract and Supply.

Waterford, N. Y.—The following bids were received by F. C. Stevens, Superintendent of Public Works, for construction of plate girder bridge over the Champlain canal at Mohawk street, Waterford; M. Fitzgerald, Hoosick Falls, \$20,016; John W. Flynn, Waterford, \$16,105; the contract was awarded to John W. Flynn for \$16,105.

Watertown, N. Y.—At the City Engineer's office bids were opened for the proposed improvements by the city in West Mullin, Pine and Maple streets. There were three bidders, Mulderry Brothers of Albany, C. D. Hodge & Co. of Watertown and Thomas J. Ward of Watertown, and the prices submitted to-day range widely, as follows: Mulderry, earth excavation, \$1.20; rock excavation, \$3.25; No. 12 tile, 73 cents; No. 10 tile, 65 cents; No. 8 tile, 60 cents. C. D. Hodge, earth excavation, 98 cents; rock, \$3.50; No. 12 tile, 52 cents; No. 10 tile, 37 cents; No. 8 tile, 27 cents; T. J. Ward, earth excavation, 65 cents; rock, \$2.95; No. 12 tile, 45 cents; No. 10 tile, 36 cents; No. 8 tile, laid, 26 cents.

Fayetteville, N. C.—Mayor and Board of Aldermen, after visiting a number of cities inspecting street improvement, awarded a contract to the Atlantic Bitulithic Company of Richmond, to pave the entire business section of the city with bitulithic at a cost of about \$90,000.

Akron, O.—The Board of Service awarded a contract to E. McShaffrey & Son for the construction of a sewer in Miami and South streets, from Voris to Summer street, also a contract to Matthew McCourt for the construction of a storm water sewer in Spicer street, from Exchange street to Wolf Lodge Run.

Barberton, O.—An ordinance has been passed authorizing a bond issue of \$19,000 for water main extensions on Hopocan avenue.

Mansfield, O.—The Board of Public Service has awarded contract for the construction of the Worth avenue sewer to Lyman Oslander, whose bid was \$549.99.

Dayton, O.—Bids for the construction of 800 feet of 36-inch concrete sewer at the County Infirmary were opened by the County Commissioners, and the contract was awarded to Oscar Hopling at his bid of \$1.63 per linear foot.

Six contractors presented bids for the construction of the new sanitary sewer in South Park, and on the face of the figures, which are to be tabulated by City Engineer Celarius, Hecker & Kerchner are the lowest bidders, being under the estimate several thousand dollars; the estimated cost of the improvement is \$15,000. The bidders were

Shafer & Dill, T. J. Backus Construction Company, Hecker & Kerchner, William McCarthy, Charles H. Hoaglan and Reece & Larkin.

East Liverpool, O.—The contract for the construction of the retaining wall on Briar alley was let by the Board of Public Service to Morley & Gipner, whose bid was \$545; the work will be commenced immediately and will be performed under the direction of City Engineer J. C. Kelly.

Gallipolis, O.—Contracts for additions and improvements to the Ohio Hospital for Epileptics have been awarded as follows: To W. H. Carter, W. A. Horner and James Smith for the construction of the barn, for the sum of \$4,697; to the Skinner Engine Company for a 16x16 single valve side crank engine direct connected to a 125-kw. generator, for \$1,700; to the Western Electric Company, Chicago, Ill., for 125-kw. A. C. generator with 10-kw. exciter and engine, for the sum of \$2,283.50; to the Erner & Hopkins Company, Columbus, O., for a switchboard with General Electric Company's instruments, for \$945, and for alterations to electric wiring at the hospital in accordance with specifications, for \$610.33.—Wm. H. Pritchard, Superintendent.

Lima, O.—Julius Fetter has been awarded contract, at 29 cents per cubic yard, for excavation for a 7,000-foot, 18-inch soft tile drain, average depth 5 feet 7 inches, for the State Hospital. State will furnish the tile.—Charles E. Craig, County Engineer; S. A. Hoskins, Chairman Hospital Board.

Minster, O.—The Bluffton Stone Company, Lima, received the contract for grading, setting curbing, laying tiles, manholes and 5,800 square yards of paving, at Minster.—Jos. H. Lauferweller, Corporation Clerk.

Orville, O.—Three bids have been received by the County Commissioners for the construction of the Dalton road; the contract was awarded to the Lee & Griggs firm of Clyde, their bid being \$11,990.45.

Steubenville, O.—The contract for excavating and paving the township river road, from Gaylord mine to the Jefferson County line, has been awarded to T. J. Stringer, of Rayland, who was the lowest bidder.

Toledo, O.—Bids were received by the Board of Public Service for the construction of Sections Nos. 1, 3 and 4 of the filtered water conduit, by Reynold Voit, Secretary of Board; the bids were: A. Bentley & Sons Company, \$17.50 per foot for Section 1, \$14 per foot for Section 3, and \$21 per foot for Section 4. Bids made on brick only.

Utica, O.—The Village Council has let contracts to J. O. Shoup & Co., Dayton, for about 15,000 square yard of paving and 10,000 linear feet of concrete curbing and gutter.—E. L. Mantonya, City Clerk.

Westfield, O.—Chas. Berry has been awarded contract for street paving at \$1.30 per square yard and 45 cents per linear foot for new curb; Chas. Burgbacher bid \$1.33 for paving.

Wooster, O.—The Board of Public Service has decided to extend the water mains 200 feet further east on Neld avenue.—Clerk Van Nest.

Youngstown, O.—From estimates of the amount to be collected and the bids just made, it is believed that Youngstown will have to pay about \$50 per day for the collection of garbage. For the collection of the garbage, A. F. Scott, city, was the low bidder, with a bid of \$2.47 per ton; members of the Board of Health have estimated that the collections will average from 15 to 20 tons per day and may run higher. The successful bidder will have to provide his own wagons for carrying the garbage, but the cans will be provided by the citizens. The garbage will be delivered to the crematory where it will be disposed of under the direction of the Board of Health. Specifications under which the bids were made provide the kind of wagons which shall be used. They will have to be water tight and covered so that no offensive odors will issue from them while going through the streets. The bids received were as follows: George Alfs, Peoria, Ill., \$2.99; Youngstown Fertilizing Company, city, \$3.75; F. W. Banks, city, \$3; Thomas Murray, city, \$4.25; Charles C. Fisher, York, Pa., \$2.90; Thomas Seaborn, Youngstown township, \$3; J. A. Flithian, city, \$2.50; A. F. Scott, city, \$2.47; Patrick H. Welsh, city, \$3.55.

Sapulpa, Okla.—Contracts for the erection of five steel bridges in Creek County have been awarded the Toledo-Massillon Bridge Company, Dorr street, Toledo; the total cost is to be \$11,714.

Shawnee, Okla.—The E. L. Estes Plumbing Company has the contract, at \$6,900, for water extensions.—A. D. Martin, City Clerk.

Stillwater, Okla.—The American Light and Water Company of Kansas City, Mo., has secured the contract for improvements to the lighting plant and water works, including a filtration plant, for \$38,840. Bids were received on Aug. 17. Same company was awarded sewer contract at \$27,000 on the unit system.—The W. K. Palmer Company,

Dwight Building, Kansas City, Mo., Engineer.

Roseberg, Ore.—The Warren Construction Company, of Portland, has been awarded a contract for laying eighteen blocks of bitulithic street pavement; Councils also accepted the bid of Morris Bros., of Portland, on \$35,000 worth of municipal bonds with which to defray 50 per cent. of the cost of the work. The bonds will run twenty years and draw 5 per cent. interest.

Canonsburg, Pa.—John McNay, of this borough, has the contract for grading and paving a portion of Ridge avenue.—W. C. Black, Borough Clerk; J. M. Farmer, Borough Engineer.

Kane, Pa.—An ordinance awarding the contract for the construction of a public sewer on a certain section of Holman street to P. Morasco, at 48 cents per linear foot has been passed by Town Council.—W. A. Baker, President Town Council; Claude B. Gillis, Chief Burgess.

New Castle, Pa.—The grading and paving of Diamond street, from Grant to Craig street, will be done for \$727.90 by the New Castle Contracting Company, though the Engineer's estimate was for \$881.50, Councils having awarded the contract.

North Braddock, Pa.—C. A. Stewart, Borough Engineer, has let contract to John Dee for grading, curbing and paving portions of Bell avenue, and for Hanna alley, at \$1,569 and \$376, respectively.

Oakmont, Pa.—The contract for constructing a bridge to be erected by Allegheny County has been awarded to the American Bridge Company, 30 Church street, New York, for \$269,371. The structure will span the Allegheny River at Oakmont, connecting that borough with Harmar Township. It is expected that the work will be completed by June 1, 1910. Following are the bids received on Aug. 26: American Bridge Company, \$269,371; Pennsylvania Steel Company, \$315,168; Penn Bridge Company, \$314,638; McClintic-Marshall Construction Company, \$292,001; Fort Pitt Bridge Company, \$320,817; King Bridge Company, \$269,873. The structure will have five steel spans with a total length of 1,543 feet. Its height will be 50 feet above "pool full" when Dam No. 2 is completed a month hence, with from ten to twelve feet of slack water.

Philadelphia, Pa.—Proposals for the construction of an intercounty bridge over Cobb's Creek on the line of Woodland avenue, were received, and the contract for the work to be completed in nine months, was awarded to the American Paving and Construction Company, 211 South Ninth street, for \$19,300. The Millard Company offered to build the bridge in four months for \$20,920. The cost of the structure will be divided equally between this city and Delaware County.

Wilkes-Barre, Pa.—Bids were received for paving William and Church streets, and the proposal of Fitzpatrick & McConville, the successful bidders for the South Main street pave, was low, their bid of \$5,366.93 being \$40.87 lower than their nearest competitor, Edward Healey; the contract will very likely be awarded to Fitzpatrick & McConville. Three bids were received for the William and Church street pave, as follows: James Munley, \$5,941.14; Edward Healey, \$5,407.90, for Mack brick, and \$5,381.63 for Clearfield brick; Fitzpatrick-McConville, \$5,366.93 for Mack, Porter or Clearfield brick.

Woonsocket, R. I.—The Board of Sewer Commissioners let contract to the Cumberland Construction Company, Providence, R. I., for sewers, rock excavation, etc.—Frank H. Mills, City Engineer.

Knoxville, Tenn.—The appropriation for the Fire Chief's wagon is \$250, and the Board of Public works has awarded the contract to Frank H. Post & Co., a Knoxville firm, saving at least \$75.

Memphis, Tenn.—The following bids were received for 65,000 square yards of asphalt pavement on Madison avenue: H. P. Streicher & Co., Spitzer Building, Toledo, O., \$136,350; Barber Asphalt Paving Company, First National Bank Building, \$174,150; Memphis Asphalt and Paving Company, Tennessee Trust Building, Memphis, \$158,250.—J. W. Weathersford, City Engineer.

Dallas, Tex.—C. W. Olcott has been awarded contract for laying sewer on Harwood street, his bid being \$111.12. The Mayor was authorized to sign a contract with Klein Bros. for building cement curbs and gutters on both sides of Live Oak street, between Peak and Annex, the cost to be 59 cents per linear foot; three bids for furnishing a crane were opened and referred.

McKinney, Tex.—The entire Public Square is to be paved, as the result of a meeting between a committee of the McKinney Commercial Club and the Commissioners' Court, and the contract being let to the firm of Ockander Bros., of Waco, which firm has the contract for the paving now in progress, represented by F. E. Cammack; the cost is not to exceed \$11,500.

Bellingham, Wash.—Two bids for the construction of that part of the West Holly street trunk sewer, between C and E streets,

were presented at the meeting of the Board of Public Works recently, and the contract was awarded to Rogers & McElmon for \$4,138. Charles E. Lind's bid was for \$4,567.

Seattle, Wash.—Two bids submitted to the Board of Public Works for the paving of West Galer and other streets in the Queen Anne Hill district, by the Barber Asphalt Paving Company and Independent Asphalt Paving Company, has led to the assumption by City Hall officials that the alleged paving combine has been broken. One of the reasons is that the lowest bid was \$6,075.47 below the estimate furnished by City Engineer R. H. Thomson. Not since pioneer days has there been a bid submitted lower than the estimate for the improvement furnished by the Engineering Department. The Independent Company submitted a bid of \$75,324.53 and the Barber bid was for \$77,529.76. The limit of assessment is \$81,500 and the estimate of the Engineer was \$81,400.

The contract for constructing pipe sewers in Atlantic street, etc., has been let to Paul Steenburg, Hinckley Building, Seattle, at \$63,958. The only other bid was submitted by Lance & Peters, Walker Building, Seattle, at \$68,804.—R. H. Thomson, City Engineer.

Tacoma, Wash.—The following contracts for street improvements have been awarded: For laying water mains in Local Improvement District No. 531, to Antonio Fermo, \$1,472; Engineer's estimate, \$1,654; cement sidewalks in Local Improvement District No. 627, Erickson & Oquist, \$2,675; Engineer's estimate, \$3,148. Grading and sidewalks in Local Improvement District No. 630, Barnett & Berry, \$1,999.50; Engineer's estimate, \$2,264.

The Commissioner of Public Works has let a contract for 4,620 feet of 24-inch machine-banded wooden pipe, to the Washington Pipe and Foundry Company, of Tacoma, Wash., at 95 cents per foot.

De Pere, Wis.—At a special meeting of the Board of Water Commissioners, bids were awarded subject to the approval of Council for furnishing material for the laying of new pipes and specials on Broadway before the paving work is started next spring; the Mueller Manufacturing Company of Decatur, Ill., was awarded the contract for furnishing the curbcocks and service boxes; Ruby & Warren, city, received the contract for furnishing 3,000 feet galvanized iron pipe; the Ludlow Valve Company of Chicago was given the contract for hydrants, aid valves and valve boxes; the American Cast Iron Pipe Company of Birmingham, Ala., was awarded the contract for 1,350 feet of 6-inch pipe.

All of the bids for laying the pipe and connections were rejected by the Board, being too high.

Fond du Lac, Wis.—The following bids were opened for the sewers on North Park avenue, North Main, Portland and Cotton streets: Albert Solke: 8-inch pipe, 47 cents; 10-inch pipe, 53 cents; 12-inch pipe, 60 cents; manholes, \$28; flush basins complete, \$30 extra six branches, 50 cents each. S. H. Cole: 8-inch pipe, 56 cents; 10-inch pipe, 60 cents; 12-inch pipe, 65 cents; manholes, \$25; flush basins complete, \$34; extra six branches, 40 cents each. James McCabe: 8-inch pipe, 64 cents; 10-inch pipe, 70 cents; 12-inch pipe, 82 cents; manholes, \$28; flush basins, \$25; city to furnish iron casting.

Mayville, Wis.—Contract has been let to James McCabe, of Fond du Lac, Wis., to construct 7,000 feet of sewer in Mayville.

Kewaunee, Wis.—Bids were received by W. Wiesner, City Clerk, and contract was let to the Langstadt Meyer Construction and Supply Company for the construction of an electric light plant, the work to include the construction of a brick building, pole line and wiring; one 50-kw., 2-phase, alternating-current dynamo, are light equipment, and an 85-h.p. high speed compound condensing steam plant.—Oscar Claussen, German-American Bank Building, St. Paul, Minn., Consulting Engineer.

Racine, Wis.—The Board of Public Works let contract to H. C. Hanson for grading Albert street.—P. H. Connolly, City Engineer.

Calgary, Alta., Can.—Allis-Chalmers-Bullock, Ltd., Sovereign Bank Bldg., Montreal, have secured the contract to enlarge the municipal lighting plant, with a 750-KW. alternating current generator, 30-KW. exciter, switchboard and other auxiliary apparatus.

Calgary, Alta., Can.—The Kettle River Quarry Company has secured the contract for street paving; price, \$135,000 for creosote blocks.

Lethbridge, Alta.—Council has awarded the contract for a 450,000-gallon standpipe to the Minneapolis Steel and Machinery Company, Minneapolis, Minn., at \$14,965; the pipe is to be completed early in December.

Wingham, Ont., Can.—The Town Council has awarded contract for new machinery for the electric light plant to the Canadian General Electric Company, of Toronto, at \$4,350.

Portage La Prairie, Man., Can.—The contract for laying the 12-inch intake pipe, 404 feet long, has been awarded to Holmes & Kirkmond at \$3,630. Murphy Bros. also bid on this work.

Havana, Cuba.—It was announced from the offices of R. Floyd Clarke, of No. 3 Wall street, New York City, that the McGivney & Rokeby Contracting Company, for which he is counsel, has sublet the contract for the sanitation of the City of Havana to the Cuban Engineering & Contracting Co., and to the Uvalde Asphalt Paving Company. The contract, which originally was entered into between the municipality of Havana with Ralph T. Rokeby and Samuel P. McGivney on January 10, 1902, called for about \$10,500,000 worth of paving and sewage work. A new contract was drawn up on June 23, this year, between the Republic of Cuba and the McGivney & Rokeby Contracting Co., which will involve about \$6,000,000 additional work, principally in the Vedado district. Ten per cent. of the revenues of the port of Havana have been set aside to pay for the work. The Cuban Engineering & Contracting Co. has just been organized for the express purpose of taking over the sewer building end of the work.

INCORPORATIONS

Cluster Alliance Gas Lamp Company, New York, N. Y.; to manufacture incandescent gas lamps, mantles, etc.; capital, \$5,000. Incorporators: Solomon Blum, 1758 Madison avenue; Nathan Rosen and Abe Tannen, 4 East 112th street, all of New York.

Erie & Ontario Sanitary Canal Company, Buffalo, N. Y.; to accumulate and supply water by canal; capital, \$100,000. Incorporators: Millard F. Bowen, Irving L. Pruyne, Buffalo; Edward H. Taylor, Niagara Falls.

Garrett Electric Co., Syracuse, N. Y.; electricians, electrical and mechanical engineers; capital, \$5,000. Incorporators: Theron D. Garrett, Byron H. Garrett, Jesse E. Garrett, Syracuse.

Giant Construction Company, 94 La Salle street, Chicago, Ill.; general contracting business; capital, \$25,000. Incorporators: S. A. Buffington, Clyde E. Paden, Charles H. Soelke.

Haitian Electric Company, Jersey City, N. J.; to manufacture and generate electric current for light, heat and power; capital, \$100,000. Incorporators: Lucien M. Arthur, No. 920 Woodland avenue, Plainfield; Samuel H. Parsons and Joseph L. Egan, 5 Nassau street, New York.

Lane-Laurer Packing Co., New York, N. Y.; to manufacture and deal in packings and engineers' materials and supplies; capital, \$20,000. Incorporators: Fred Laurer, Upper Montclair, N. J.; J. Wellington Lane, 130 Clark street, Jersey City; R. G. Davey, 63 West 56th street, New York, N. Y.

McConnell Engineering and Construction Company, Rochester, N. Y.; contracting and engineering; capital, \$20,000. Incorporators: Lewis Y. McConnell, Thomas C. Henry, Matthew S. Cunningham, Rochester.

McMullen & Woods Company, New York, N. Y.; contractors and engineers; capital, \$50,000. Incorporators: Arthur McMullen and Ray W. McMullen, Stamford, Conn.; Francis S. Woods, Schenectady, N. Y.

Mt. Mintern Construction Company, Greenburg, N. Y.; general construction work; capital, \$5,000. Incorporators: Jerry Altieri, 1567 Wilkins avenue; C. Adelbert Becker, 440 Fremont avenue, both of The Bronx; William G. McCrea, 146 Central Park West, New York.

Mohawk Paving and Contracting Company, Schenectady, N. Y.; paving contractors; capital, \$20,000. Incorporators: John G. France, Springfield, Mass.; Eugene Caldwell, Rochester; Christian Hermance, Albany.

Monowad Construction Company, Wilmington, Del.; capital, \$1,500,000. Incorporators: Edwin L. Tunis and Henry W. Williams, Baltimore; Rion L. Burrows, New York.

People's Light Company, Corpus Christi, Tex.; capital, \$30,000; to supply light, heat and power. Incorporators: Clark Pease, John C. Kennedy, George A. Blucher and Thomas E. Craig.

Queens Electrical Supply Company, Queens, N. Y.; to manufacture gas and electric light fixtures, etc.; capital, \$1,000. Incorporators: Joseph R. Malone and Jesse Richards, Long Island City; G. Sidney Leach, 40 Wall street, New York.

Rich Construction Company, Cairo, Ill.; contracting and construction work; capital, \$10,000. Missouri corporation.

Sandwich Electric Company, Sandwich, Ill.; to manufacture electrical supplies; capital, \$75,000. Incorporators: S. P. Sedgwick, E. F. Ledoyt, E. C. Rennis.

Scranton Cement Brick and Concrete Construction Company, Dover, Del.; capital, \$50,000. Incorporators: William J. Davies, Dr. William Rowland Davies, William W. Harris, William H. Harris, all of West Scranton, Pa.

W. M. Tulloch Company, Camden, N. J.; contractors, constructors and dealers in building materials of all kinds; capital, \$10,000. Incorporators: F. R. Hansell, George H. B. Martin, John A. MacPeak, as above.

PERSONALS

BODEKER, G. H., Chief of Police of Birmingham, Ala., has gone on a trip to Cleveland, Columbus, Cincinnati and Nashville, for the purpose of studying the police departments of those cities.

MARSHALL, W. A., has been elected Mayor of Tullahoma, Tenn., at the municipal election held on August 20. His opponent was J. T. Elliott.

NOLEN, JOHN, of Cambridge, Mass., landscape architect in charge of the park and drive improvement plans in Madison, Wis., was in La Crosse, Wis., to look over the parks and the proposed drives, for the purpose of reporting to the Park Commissioners what can be done in the way of improvements. Plans will be drawn by him and submitted to the Commission.

POE, EDGAR ALLAN, of Baltimore, Md., has been appointed by Mayor J. Barry Mahool to succeed William Cabell Bruce, who has resigned, as City Solicitor.

REILLY, EDWARD, wrestler and former policeman, of Ellwood City, Pa., has been made Chief of Police, by the Council of the Borough. Reilly was elected on the first ballot, though there were seven other applicants. His compensation will be \$7 a month.

SCHULER, JOHN J., late President of the Common Council of Lebanon, Pa., died on August 20. The funeral was largely attended by Councilmen and city officials. His remains were taken to Mt. Lebanon Cemetery.

THIES, O. J., has been retained by the city of Aurora, Ill., to superintend the erection of a number of concrete bridges which have recently been put under contract.

TWOHEY, JOHN P., Superintendent of Street Cleaning, of Washington, D. C., for over two years, has tendered his resignation to Commissioner West. Mr. Twohey is to engage in the practice of law.

WILSON, JOHN, of Minneapolis, Minn., has been retained by the city of Mankato, Minn., to advise on improvements in the water and sewerage systems.

PATENT CLAIMS

895,651. Concrete-Mixer. Charles C. Lorenz, Denver, Col. Serial No. 342,711.

In a mixer of the class described the combination of two side pieces, with legs rigidly secured thereto at their upper extremities and outwardly inclined from the side pieces, a rearwardly located leg having its upper extremity loosely connected with the structure, forward and rearward plates located between the side pieces and occupying positions at an angle to each other, a bottom plate located between the front and rear plates, and cheek pieces secured to the bottom plate, the forward plate being pivoted to allow the material to pass downwardly after leaving the lower extremity of the bottom plate.

895,420. Ash Receptacle. Theodore L. Bristol, Ansonia, Conn., assignor to Ansonia Novelty Company, a Corporation of Connecticut. Serial No. 432,069.

In an ash receptacle having side walls, and a bottom therefor forming a compartment, a ledge extending downwardly and inwardly from the upper edge of said side walls, a dish-shaped tray composed of separate half portions, said half portions having adjacent pivotal bearings in said ledge, said half portions also having pinions adjacently attached thereto adapted to intermesh whereby said half portions may be rocked in opposite directions, and a finger rocking rod attached to one of said half portions.

895,633. Gyrotory Crusher. Charles L. Hathaway, Denver, Col., assignor to the C. L. Hathaway Rock Crusher Company, Denver, Col., a corporation of Colorado. Serial No. 309,673.

In a crushing machine a mortar, a crushing head within the mortar, a shaft carrying the head and extending below the lower end of the mortar, means engaging the upper ends of the shaft for imparting a gyrotory movement to the shaft and head, means to hold the shaft against downward movement, and means intermediate the lower extremity of the shaft and the head for providing a lateral resistance against the movement of the shaft.

TRADE NOTES

Cast-iron Pipe.—Lettings to small municipalities were the feature of the market during the past week, sales aggregating about 3,500 tons, the largest, 800 tons, being to Brainerd, Minn. Competitive conditions remain unchanged, also prices, which are quoted as follows: 4-in., \$27; 6 to 12-in., \$26; 16-in. and up, \$25. Birmingham: Only a few small transactions for municipal maintenance and extensions. Quotations: 4 to 6-in., \$23; 8 to 12-in., \$22; over 12-in., average, \$21. San Francisco: Business is improving, and heavy tonnage is expected within the next few months. California cities are buying and there is a possibility of securing a market in Mexico.

Pig Lead.—Business is dull, and while a little spot metal can be had at 45 $\frac{7}{8}$ ¢, most of the sellers are holding out for 46¢, which is the price of the leading interests. The market in St. Louis is likewise firmer, at 44 $\frac{1}{2}$ ¢ to 45¢.

Electric Truck for Street Work.—McCready Bros. Co., of Braddock, who have been paving a number of streets in different parts of Greensburg, Pa., for the past few weeks, has received by freight an immense electric truck for hauling curb, sand and other materials used in their business. The machine will be given a thorough tryout by the company here, and if it works to satisfaction it will be used for all their heavy hauling. The truck is furnished by the Bellfield Motor Company, of Pittsburg, and has a capacity of five tons. Six or seven tons can be hauled where the grades are not excessive. The speed for a level grade is five miles an hour. An electric motor in each wheel gives the maximum tractive qualities to the machine and enables the truck to run on uneven ground in a manner impossible with the usual types of truck. The machine is of the same type being adopted by many contractors and will greatly lessen their labors. It is expected to use it for plowing preparatory to grading where a six-horse team is now required. Steering gear attached to each wheel, enabling the machine to turn in a 25-foot street makes the machine of particular value in this work.

Storage batteries supply the power, but it is the intention of later installing a small gasoline engine and motor, thus generating its own running power within itself.

Electric Lamp Factory Burns.—The wooden factory building occupied by the Consolidated Electric Lamp Company at Danvers, Mass., was destroyed by fire recently, causing an estimated loss of \$20,000, covered by insurance. As a result, nearly 100 hands are out of work, but it is announced that the company will resume operations as soon as possible.

Gas Engine for Light Plant.—The Clarkfield Roller Mills and Electric Light Company, of Clarkfield, Minn., has placed an order with the Minneapolis Steel and Machinery Company, of Minneapolis, Minn., for an 80-h.p. Muenzel producer gas engine and suction gas producer for running their mill and electric light plant.

Street Railway.—Mayor John H. Bonner, of Tyler, Tex., writes the MUNICIPAL JOURNAL AND ENGINEER that his town offers a good field for a street railway and wishes to correspond with those likely to be interested in developing such an enterprise.

Lighting Officials Meet.—The annual meeting of the Susquehanna Railway, Light & Power Company and allied companies was held recently at the Rathbun Hotel, Elmira, N. Y. Following organization and other preliminary work adjournment was taken and another business meeting held at 2 o'clock in the afternoon and 8 o'clock in the evening. Following a brief business session, the general officers, local representatives and superintendents of the various plants of the company made a trip through the electric light plant, gas works, car barns, filter plant and pumping station. In the evening the guests of the local officers went to Rorick's Glen and the following day spent the afternoon at Watkins Glen, concluding at 7 p. m. with a steamboat ride on Seneca Lake, followed by a banquet in Watkins Lake View Hotel. The meetings are held yearly for the purpose of discussing the best methods to promote the welfare of the business both for the betterment of the service and the financial interests of the company at large. The company has plants located at Lancaster and Altoona, Pa.; Chicopee Falls, Dedham and Hyde Park, Mass.; Colorado Springs, Col.; Terre Haute and Richmond, Ind.; Hartford, Conn.; Lockport and Elmira, N. Y.; Leavenworth, Kan., and Bloomington, Ill.

Handling Live Wires.—In the presence of over eight hundred electricians and officials from all points along the Pennsylvania Railroad lines east of Pittsburg and Erie an elaborate test was made at Altoona, Pa., recently, of means to avoid danger from live electric wires. A pair of wire-cutters, specially made for the experiment, having wooden handles and boiled in paraffine oil, were used to cut wires carrying 8,000 volts. The test was completed without the slightest shock. The company's chief expert, B. F. Wood, used a rubber coat wet with rain and dragged around the sizzling end of a broken wire apparently immune.

Water Purification.—The Youngstown Sheet & Tube Company, of Youngstown, O., has contracted with the William B. Scaife & Sons Company, of Pittsburg, Pa., for an addition to its present 15,000 horsepower water softening and purifying system to provide for the 8,000-horsepower boilers which are being added for the operation of its new blast furnaces. The present water softening and purifying system is of the We-Fu-Go intermittent type, and consists of four large treating and settling tanks and four mechanical gravity filters. When the additional apparatus is installed the system will consist of six large treating and settling tanks and seven mechanical gravity filters, and the total capacity will provide for 23,000 horsepower boilers, or 92,000 gallons of water per hour.

Brick-Making Machinery.—The C. W. Raymond Company, of Dayton, O., manufacturers of brick making machinery, is in receipt of a big government contract that will involve the expenditure of over \$21,000. The Constructing Quartermaster of the United States Military Prison at Fort Leavenworth, Kan., has been authorized to accept the concern's proposal for brick-making machinery. The bidding had to be done by individuals, and John L. Schroll, who is secretary and treasurer of the Raymond Company, acted for the Dayton concern. All the leading manufacturers of brick-making machinery in the world participated in the bidding. The company has been enjoying good business, having received several large contracts.

Dam Construction.—The Commonwealth Power Company, of Bay City, Mich., which is planning to develop the water power of the Au Sable River for electrical purposes, and to furnish cheap light and power to Bay City and Saginaw, has about twenty-five men at work testing, besides surveyors and engineers. The testers are drilling holes to determine the nature of the soil over which the water behind the dams will stand. The first dam will be 40 feet high and will be constructed near Banfield. The dam will back the water up a considerable distance and many hundred acres will be flooded. The company has bought extensively in this district. A large amount of land not purchased and back some distance from the river, is under option. The Commonwealth Company and the Loud interests are united in the proposed enterprise.

Garbage Reduction.—A new concern to take over the plant of the Toledo Reduction Company is in process of formation and will soon be incorporated. The company will have a capital of \$200,000 and will be financed by Cincinnati, Michigan and Toledo men. It is understood that Henry Wagner, of Cincinnati, is one of the promoters of the deal. At the office of Sheriff Chambers in the Court House the contract for the disposal of the city garbage was auctioned off to the highest bidder and was given to Martin Lask, who represented the new company. The price paid was the nominal one of \$15. Under the contract the city agrees to deliver the garbage at the reduction plant of the company. There was one other bidder, Curtis Johnson, who represented the same interests as Lask. The Sheriff was ordered by the court to sell the contract, which is one of the assets of the old company. It was announced that the new concern will dispose of the garbage and offal in an entirely different manner from that followed by the old company, which went into the hands of a receiver. A permanent injunction was issued against the defunct concern preventing it from operating the plant, on the ground that the corporation was a public nuisance. The new company will reduce the garbage by a chemical process, which, it is said, destroys all odors, and as soon as the company is incorporated the court will be asked to dissolve the injunction. The company expects to not only reduce the garbage of this city, but also to handle offal within a radius of 100 miles. This offal, which will be collected in the abattoirs of the smaller towns, will be shipped in here and manufactured into grease and such by-products as fertilizer.

Smokeless Factory.—All the shop buildings of the McClintic-Marshall Construction Company at Rankin have been painted white, inside and out. This somewhat unusual dress for a manufacturing establishment is due to the fact that the power is furnished exclusively by gas engines, which are smokeless. The company's new templet shop, 108 by 120, and two stories high, was formally opened with a reception and dance given by employees of the concern. The greatest single shipment for any one structure which has ever been forwarded by the company was recently made, when a train of sixty-three cars left the works over the Pittsburg and Lake Erie Railroad, loaded with structural material, including castings, for a bridge over the Platte river, near Tremont, Neb., for the Chicago and Northwestern Railroad Company.

NEW YORK HAS THE SQUEEGEE

**The Metropolis Adopts the Kindling Street Washing Machines
After a Thorough Trial**

A rubber squeegee cleaner that replaces the sprinkler, the sweeper and scraper. Used in the cleanest cities of Europe and now available here.



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DEPARTMENT OF STREET CLEANING
OF THE CITY OF NEW YORK

M. G. 13-21 Park Row, New York

Foster Crowell, Commissioner

August 18, 1908.

THE KINDLING MACHINERY CO.,
Milwaukee, Wis.

Gentlemen—I am in receipt of your communication of August 10th enclosing bill of lading for three (3) of your Street Washing Machines, which completes the order for ten (10) machines for this Department.

These machines are doing most excellent work, both in point of thoroughness and economy. We are making an extensive test with the machines, covering the street area cleaned, quantity of water consumed and cost of operation. When sufficient data is obtained I shall be glad to let you have a statement of the results.

Respectfully,

FOSTER CROWELL, Commissioner.

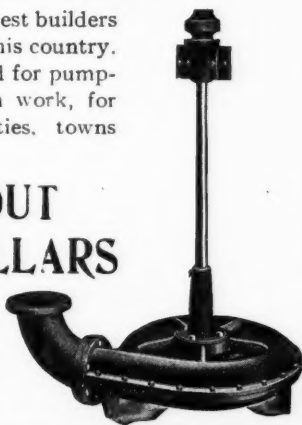
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We are the oldest and largest builders of this class of Pumps in this country.

They are specially adapted for pumping sewage, ditch or trench work, for WATER SUPPLY for cities, towns and villages, and for

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Write us the exact service you require and we will make recommendations to suit conditions.

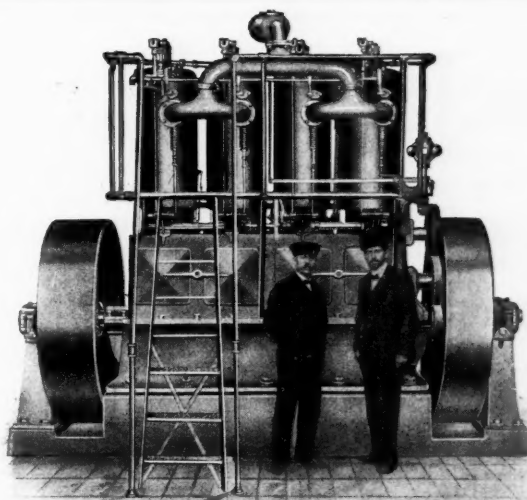


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WE BUILD ENGINES in one, four and eight cylinders in sizes up to 1000 H. P. for Suction Gas, Natural Gas and Liquid Fuels. With our Suction Gas Engines, Producers and Direct Connected Generators, we can produce a K. W. at the switchboard at from one-third to one-half cent. per hour, including labor. Catalogue No. 15 will give you full details.

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MUNICIPAL WORK

calls for an up-to-date plant. The best is the cheapest and our

Steel Body Trucks and Carts

are right in every particular. See full page ad. issue March 4th. Description and full information on request.

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622 West 17th Street, New York City

MERIWETHER SYSTEM CONTINUOUS CONCRETE PIPE (REINFORCED) SEWERS, CULVERTS, CONDUITS

The only concrete pipe having continuous and uniform reinforcement throughout entire line of pipe when it is laid in the trench.
Sizes, 24 inches to 72 inches. Write for additional information.

LOCK JOINT PIPE COMPANY, 165 Broadway, New York
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For over 25 years the Warrens, root and branch, have been shooting at one mark. The mark has been Bituminous Street Pavements. This 25 years' firing has not been at random; it has been hitting with fixed aim the high mark. Constantly improving their marksmanship and everlastingly keeping at one thing, they have attained in Bitulithic the perfect score.

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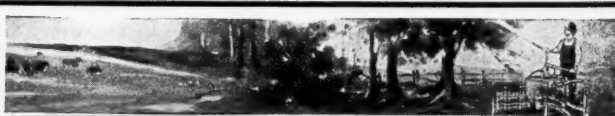
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"The Sun That Never Sets"

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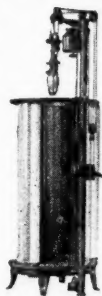
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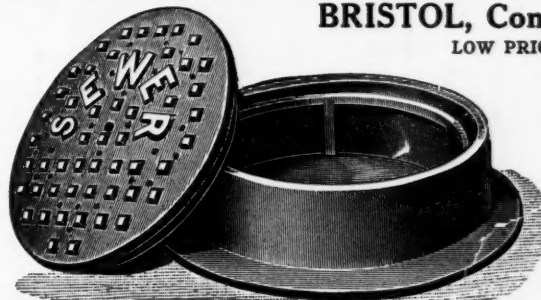
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SEWER CATCH-BASIN CASTINGS, ETC., TO ORDER
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For Protecting Edges of Concrete Curbs, Steps, Columns, &c. The only effective CONCRETE EDGE PROTECTOR offered to the contracting public.

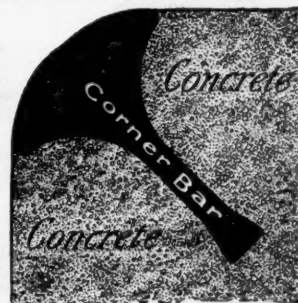
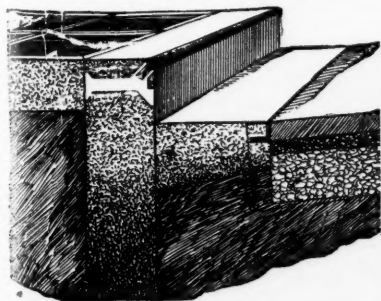
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This bar is well galvanized, so it will not rust. Has a solid head, guaranteeing resistance from the heaviest possible impact of wheels or other heavy bodies, and is held in place by a dovetailed web forming an anchorage extending its full length, not only anchoring, but supporting the solid head every inch of its length. This bar has been in public use for more than ten years as the main feature of the

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The dovetailed web anchors the bar at all points, resulting in great superiority over a corner protector anchored by bolts, wires or rods at intervals, allowing buckling or expansion causing ultimate loosening of the metal from the concrete. Metal parts for sale. Correspondence invited.



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All iron or bronze mounted
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Fig. 210
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Gate Valve



Fig. 47
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Fig. 41
30" Coffin Flap Valve
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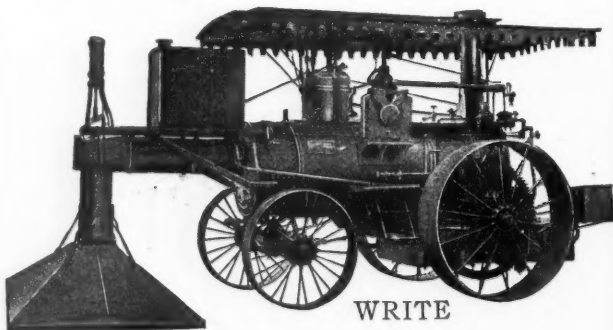
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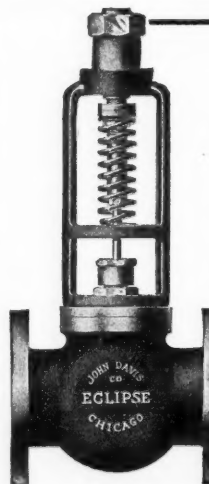
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It makes taking up old asphalt or other bituminous pavements, adding new material and resurfacing EASY. We can cite you to other cities where the great saving affected by this machine has been demonstrated.

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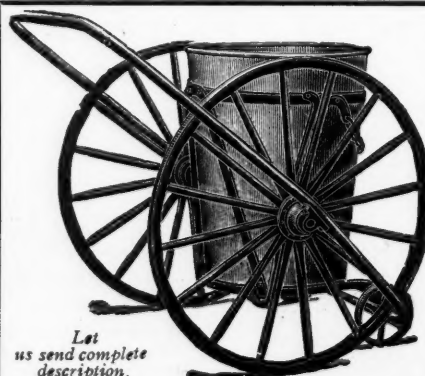
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